A Presidential Address

ON

SOME DISEASES INCIDENTAL TO SCHOOL LIFE IN NEW ZEALAND, WITH SUGGESTIVE METHODS FOR COMBATING THEM.

Delivered before the Members of the New Zealand Branch of the British Medical Association at their Annual Meeting at Wanganui.[1]

BY G. R. SAUNDERS, M.B., B.C. CANTAB., &c.

MR. PAST-PRESIDENT AND GENTLEMEN,—In acknowledging the honour you have done me in electing me as your President a feeling of satisfaction and anxiety is very apparent to me—satisfaction that things have so befallen me that you should consider me worthy to preside over your deliberations, and anxiety that the debt which I owe you in return will, in all probability, be poorly and inadequately repaid. I have chosen for my address a subject that I have long considered ought to be fully ventilated—a subject that concerns all Britishers—a subject which pertains to the gospel of flesh and blood, the gospel that has made England and the gospel that will maintain Greater Britain in the future—viz., attention in every detail to our rising generation.

There is no doubt that the State can soon discipline its men if they are of the right sort, but the problem that lies nearer to us as members of the medical profession is to do all we can to encourage those ideas which we know full well will build up the stamina of the race and which, if carried out, will tend to give the nation healthy men and women fit to play their parts as individuals, as units of a nation, and as the breeders and rearers of the future representatives of Great Britain and her colonies. Herbert Spencer indeed aptly put it when he wrote: "To be a nation of healthy animals is the first condition of national prosperity." The object of my address to-night is not to tell you anything new on the subject, but to endeavour to keep this, to my mind, most important theme ever green before you, and to endeavour in this way, by perseverance, patience, and determination, to bring the subject by degrees—if by no more rapid movement—prominently before the existing authorities until the end has been accomplished. It is only at our annual conferences that such opportunities arise, for, like the stewards of the English Jockey Club, the members of the medical profession do not, as a rule, write to the newspapers airing their thoughts and grievances. The English Jockey Club through their stewards speak out their minds on affairs connected with the Turf from time to time at the annual dinner of the Gimcrack Club which has been held at York for the past 134 years. This is the opportunity embraced by those interested reformers in Turf pursuits to express their thoughts, to make suggestions, and to criticise shortcomings generally. During the past few years marvellous Turf reforms have resulted as a sequel to these expressions, and great benefit in the way of purifying the Turf of many objectionable practices has come about. Now this conference gives us the same opportunity of doing so from a medical standpoint. We are all by the nature of our calling very apt to get into grooves, but in attending gatherings such as this in which we now have the privilege of taking part we are forced out of the groove. We amend views which by necessity tend to become parochial and accordingly regain our power of observation and correct thought. The gain is, therefore, all round to our advantage and to the advantage of our patients. It consequently comes about that the laity look to conferences such as this our annual gathering to speak with an authority such as no individual can exercise on any question which affects the public welfare, and to give such advice and solemn warnings as may assist the real lay reformer to check the evils which we happen to place before him, and especially those which are likely to affect generally the health and development of the nation as a whole and of its rising generation in particular. I feel, therefore, that it is my duty to do something in this direction and I cannot, I think, do better than follow in the wake of some of my immediate predecessors in the presidential chair in choosing as a subject the following: "Some Diseases Incidental to School Life in New Zealand with Suggested Methods for Combating Them." This subject, I feel sure you will all agree with me, is one of great seriousness and includes a vast variety of diseases. My object is to draw your attention to but a few of them—for the time at my disposal is limited—those which in my opinion are of paramount importance.

THE EYESIGHT OF SCHOOL-CHILDREN.

In the first place, the question of eyesight in schools is one of the highest interest and demands great attention. There can be no possible doubt whatever, it appears to me, that abundant and convincing evidence exists that the vision of school-children, which should apparently under normal conditions have remained sound, is constantly deteriorating during the epoch devoted to school life. Expanded knowledge explains why it comes about that we see so many children and youths walking about with spectacles at the commencement of the twentieth century than was formerly the case. As a matter of fact, the eye in youth is often asked to perform tasks which it cannot possibly accomplish. There was a time when distant vision was the only sight required, that for near objects being trivial in comparison to it; but general civilisation has completely altered this state of things and the existing condition is now exactly the opposite—viz., the eyes are now used almost constantly for near objects and that for distance only occasionally in proportion to the past. The long hours of study that even little children spend over work close to their eyes is the cause which brings us to the opposite extreme. The means by which the eye accomplishes this close work is of course entirely muscular, and when "focussing" is undertaken for a near object convergence of course accompanies it. The growth, development, and the functional activity of the eyes, as of other bodily organs, are influenced by the amount of work which they are called upon to do. The normal or emmetropic eye is so constructed as to obtain perfect distant vision of objects not less than 20 feet away. There is, then, no individual adjustment, and therefore it is in a passive condition as regards its fellow. As this distance is diminished the eyes assume in a constantly increasing ratio an altered shape and direction, and this can only be accomplished by muscular effort obtained by increasing the convexity of the internal lens. The result is that weariness will ensue just in the same way as an overtaxed biceps becomes weary.

It will not be difficult to show that the process of ordinary scholastic education, as applied to the young, or the circumstances associated with higher civilisation, tend to the production and promote the handing down to offspring of eyes of an inferior type. Indeed, the ordinary methods prevailing in schools of imparting knowledge promote the alteration in the shape of the eyeball produced by long convergence. It follows, then, that eyes of an inferior type or of faulty shape, when subjected to undue convergence strain, are more liable to suffer injury than are those which are of normal proportions and of natural acuteness of vision. In the face of such circumstances it is not unreasonable to come to the conclusion that many schools are manufacturers of defective vision. This question, as you will recollect, was first investigated by Cohn of Breslau, who examined 10,060 scholars and who published the results as far back as in 1867. Among the whole number he found 1072, or more than 10 per cent., short-sighted, and he found that the short sight increased steadily both in numerical prevalence and degree as the school life was persevered with, being less frequent and least pronounced in the elementary schools, more frequent and more pronounced in the intermediate schools, and most frequent and most pronounced in the finishing schools. His investigations have been since repeated by numerous observers in all parts of the world, with the result that notwithstanding variations in the percentage found in different localities the general statement made by Cohn concerning the progressive increase of short-sight in school-children, both in amount and degree, has been abundantly verified. Such an examination, as

[1] The MS. of this paper has, owing to misfortune in the post, made three journeys between New Zealand and London before reaching us.—ED. L.

far as I can learn, has never been made in this colony, but each one of us is frequently meeting within our daily practice instances of defective vision in school-children. It is our duty, I think, as medical men, for the well-being of our colonial youth, to express our views clearly on the subject and to make suggestions whereby the abuse may be met. Dr. H. Lindo Ferguson of Dunedin in a most interesting paper read by him at the Inter-colonial Medical Conference, in the section connected with the eye, ear, nose, and throat, held in 1899 at Brisbane, came to the conclusion that in New Zealand the children attending schools were comparatively free from myopia, that for every case of myopia he observed more than 10 hypermetropes whose eyes had from one cause or another failed during school life, adding that "this freedom from myopia in New Zealand is not in any way due to special precautions on the part of the authorities to prevent it. ..... I can only consider that the small percentage of myopia is due to racial immunity from the condition." Mr. Brudenell Carter's statement to the Education Department in England in 1896 comes to the same conclusion, for he found that the ordinary refractive condition among 8000 children examined was hypermetropia. Mr. Priestley Smith in Birmingham found about 5 per cent. of short sight among 2158 school-children, the great majority being between the ages of eight and 11 years; but among 357 students in training colleges, persons taken from the same class, or nearly so, as the children, and of ages ranging from 18 to 23 years, he found short sight in 72, or what comes to 20 per cent. Mr. W. Adams Frost as a result of his examination of a South London board school found that 9·6 per cent. so suffered and Mr. Roberts has published the result of an examination of 596 boys held at Marlborough which made the percentage even higher still.

I do not propose to weary you by going into the pathological changes taking place in the eye as a result of carelessness in correcting (or doing nothing to assist) such conditions of refraction. Myopia is not only a most serious defect (although it is, curiously enough, a vulgar error to suppose that such a condition is more of a blessing than a curse), but it is a disease the nature of which is quite beyond our art to cure. At the same time, it is to an immense extent preventable and unless its progress can be arrested the eye must soon lapse into a condition of grave jeopardy. "Hypermetropia is congenital; myopia acquired." This statement is nearly correct, for myopia is but very seldom found in newly-born infants. The refraction of babes, as has been demonstrated by Horstmann, Ely, and others, is, pathologically speaking, that of constant hypermetropia. This condition alters and passes gradually into the emmetropic eye, or remains hypermetropic, or it passes into the myopic condition; the later state generally about the eighth year. Indeed, the myopes are recruited constantly by eyes which have passed over into this group from the hypermetropes.

Now it has been clearly established by the evidence set forth from statistics that defective vision is induced during the whole period of school life, and that children entering school with healthy eyes have developed faulty vision, and that the proportionate number of the scholars affected increase as we ascend in the classes and also in the grade of the school. Besides these undoubted facts regarding the effect on the eyes themselves the general nutrition and well-being of the body is sure to suffer on account of the necessity of bringing the eyes close to the work. The neck is bent forward, the chest cannot expand freely, and therefore the blood becomes imperfectly aerated. The brain will, after a time, not be supplied with healthy blood, and the bodily and mental vigour will accordingly suffer. This will explain how it comes about that such a large proportion of our New Zealand children appear to suffer from hypermetropia, due to defective nerve force for the accommodative effort, with pain in the eye and the supraciliary region.

The present South African war will of necessity call great attention to the eye. Indeed, the habit of seeing accurately is itself an education—it is the very best feeder of memory, and nobody with a perceptive eye can possibly be a dunce. It is the duty, therefore, of a teacher to know how well or how ill each one of his pupils is provided with "eyes," because they are the chief portals through which instruction must be conveyed to him.

I will now pass on to consider what are the influences which act injuriously on the eyesight of school-children and what can be done to combat them.

The chief causes leading up to this defect are long continuance of close work with imperfect light, a stooping posture, work with brain and body fatigued, and indifferent type in the books perused. Mr. Bullar has recently drawn up tables with which it would be easy for any master or mistress to make a preliminary test which would hardly allow any serious defect of sight or high degree of hypermetropia to escape detection. The apparatus required for both tests is (1) a set of test types made for his tables by Curry and Paxton of London for the first and for test No. 2 a pair of spectacles with round glasses one and a half inches in diameter, with lenses + 1·5 D. The directions for the first of these tests are as follows. 1. Fix the card of letters in a good light which should be daylight. The child should stand with his toes on a chalk line 20 feet from the card. 2. Cover the child's left eye first and let the child attempt to read the rows of letters on the card from the top downwards. Enter in the column arranged for the purpose—viz., Column 6 (the first five columns being the number of the case, the date, the teacher's initials, and the name of the child)—the number which is printed on the test line of letters which the child can read perfectly. 3. Cover the right eye and enter in Column 7 the same particulars. As regards the second test, let the child put on the glasses and let the following directions be observed. 1. Cover the left eye (over the glass) and let the child read as previously and enter under Column 8 the number over the last line which he can read. 2. Cover the right eye similarly and proceed as before and enter in Column 9. Let the teacher note if the child may chance to see better with the glass or worse, or that the glass may make no difference. Now it is obvious under this simple examination that the first test excludes all practical important defects except long sight and that long sight is controlled by the second test. Column 10 is for the teacher's remarks on these tests, such as "cannot read well" or "has a squint," or the noting of any abnormality of the eyelids or eye, and the last column (11) is intended for the use of the medical man connected with the school, to whom the tables are sent when they are filled up. The tables are, of course, merely intended to ascertain the existence of defects of vision and not their nature. Such a test should be used in all schools, and the teacher should inform the parents of those children whose sight appears to be defective. If this were carried out we should see fewer cases of young men (as Mr. Bullar says) disqualified by defective sight after having suffered the process known as "cramming" for the army and navy, and, I may add, in New Zealand for employment which is quite unsuitable for them, in the railway department and in the marine service, in both of which services I regret to say that I have during the past few years been compelled to refuse the issue of certificates on account of various errors of refraction, especially to young men who have just left school.

SCHOOL-ROOM REQUISITES.

In a school-room a good light is absolutely necessary, for a room which is badly lighted necessitates a close approximation of the pupil to his book and a still closer approximation for writing. What is very necessary, too, the light should be properly directed, for it will be of no avail, even if a room be well lighted as far as quantity goes, if the child be placed so that he reaps no proper advantage from it. It is well-nigh impossible to act up to the ideal in this direction, which would be to light all school-rooms from the roof. There can be no doubt that light proceeding from the left is to be insisted upon, because the very best position for anyone is to have the light passing over the left shoulder and somewhat behind. Light passing from the right must be objected to, because from the position of the right arm on the desk the point to which the attention of the scholar is directed is cast into the shade, and this is the exact spot where a really good illumination is imperative. No artificial light can replace daylight for the purposes of study, but when required artificial light should be abundant and steady; a flickering light is both fatiguing and dazzling, and if placed near to the eye the heat given out occasions great discomfort and is of course injurious. I understand that the electric light is now almost universally used in all high-class schools in England, for it is found that a room can be lighted up to an equal degree on all the desks by an arrangement of concave mirrors which throws the light up to the ceiling and is thus diffused equally through the room.

As to the desks and seating of the scholars, a bad posture is not only injurious to the eye but it is a frequent source of crooked spine. Eulenburg states that "90 per cent. of cases of curvature of the spine, not induced by local disease, are developed during school life; ..... that in a school at

Neuchatel among 381 girls 156 were found to have a more or less deviation of the spinal column." The proper seating of school-children becomes, therefore, a very important subject and of late years has received very great recognition. In the Paris Exhibition of 1867 only three school desks were shown, while in a recent one there was more than 70 displayed. The manner in which the spine becomes distorted in sitting at a desk in a bad position—on a backless bench—can be readily demonstrated by any observant teacher by inking the spinous processes carefully and then placing the boy or girl at the desk in a faulty posture; the altered contour of the spinal column will at once be apparent. A backless bench must be condemned, and desks and seats should be readily regulated according to the size of the pupil. Our object is to prevent undue approximation of the scholar to the lesson-book and at the same time to avoid stooping. To bring this about the following essentials are emphatically necessary. A back rest should be provided because a child will not sit for long upright. The "rest" should reach up to the lower part of the back and no further. If it did so it would interfere with the movements of the body and would favour a negligent reclining posture. A footboard, too, should be provided if the scholar cannot easily reach the floor with his feet, because if his feet are compelled to "dangle" fatigue will ensue. Indeed, the height of the seat, the desk and its slope are now attended to most carefully in all schools in England. The slope for writing should be between 15 and 20 degrees, and for reading it should be 40 degrees. Delay in establishing this desideratum in the schools of New Zealand should, in my opinion, be regarded as mischievous. In early life of course the bones are soft and easily moulded and even a slight but constant pressure brought to bear on them—be it ever so little out of the normal lines—may produce irremediable deformity. It is consequently of the utmost importance that the desk, the form, the book, and the light should be so arranged that the scholar may have command over the subject in hand without fatigue and also without being compelled "to loll about" into vicious attitudes. The pupil ought to sit equally on both buttocks, the head should be erect, and the spine straight, and no unusual bending forward of the body should be permitted. The forearms should be upon the desk about halfway to the elbows. This is the correct attitude and should be insisted on. The seats and desks as at present used are inadequate, because the present seating arrangement for the scholar prevents him from sitting correctly at work. As a matter of fact, the only time the back rest is now used is when the pupil sits "idly" on the seat. That there is great room for improvement in this direction is obvious, for the best possible posture should always be maintained while sitting, whatever the occupation of the moment may be. The Glendinning adjustable modern school desk and seat will be found most beneficial for school children and even for many adults.

As regards special dealing with the subject of early lateral curvature of the spine all that is necessary for me to say is that the deformity should not be allowed the opportunity of making its appearance. If it be slight immediate medical advice should be sought and its further advance checked by an alteration of the level of the seat, and by absolutely forbidding study in the malplaced position, by joining in out-door games, and by methodical exercises of a suitable character with dumb-bells or chest expanders. All these exercises should be undertaken to the point just short of fatigue, followed by rest on a cane deck-chair with a sloping back, which makes an ideal couch for a boy or girl so troubled.

SCHOOL WORK.

The mischievous influences which I have now mentioned will act with greater force if associated with bodily fatigue and overwork, and more especially so if it be excessive brainwork it leads up to nervous exhaustion in which girls (especially between the ages of from 12 to, say, 16 years) obviously suffer most. Our present system of education entails much exhaustion and must cause us to contemplate as to what the results will be, not only to the children in their adult life, but also to their children and the generations coming after them. Observant visitors to this colony, and more especially those from England, are immediately struck with the number of our colonial girls who suffer from anæmia, and the cause of this condition will probably be found in our educational system and its general surroundings among the poorer classes. Excessive hours of study mean extra strain. The intervals of rest in the hours of study, even if short, should be frequent, and, what is of the very utmost importance to children, there should be a really good substantial midday meal. How many of our country school-children get it? Many of them start the day's work by milking cows before breakfast. They hurry over this meal and run or ride to school—often a considerable distance—with their dinner, consisting of a few slices of bread-and-butter, in their satchels. They work at their lessons far too long and walk or ride home weary and played out, only to resume "preparation" for the following day after what is known as "high tea." As a matter of fact, I know, from evidence which I can rely upon, that children actually fall to sleep during school hours owing to real fatigue, due to overwork, in the milking districts of this colony. No wonder then that we see so many cases of nervous instability, indigestion, carious teeth, and anæmia in our colonial youth. Apart from this cause the evil is, first, the promotion of children from standard to standard by examination, and secondly, the system of educational scholarships given in the primary and all of the secondary schools. Under this system there is a tremendous temptation offered to teachers to "cram" their pupils for the annual examinations, seeing that their reputation as teachers depends on the percentage of their pupils who pass the examination. The system of cramming is to be most heartily deprecated, for it can only lead to evil results. You all remember what the boy said when he was asked by his mother, "What has become of your little brother?" "We were playing," he said, "to see who would poke his head furthest out of the window, and he won." Some triumphs are bought too dearly, since they are not likely to be repeated. I learn with great pleasure that something is now being done by the Education Department to check this terrible evil, and I trust that the measures adopted will be drastic. There is no doubt that scholarships will continue to be competed for, and theoretically the system is all right; but its effects are extensive and in a variety of ways undesirable. We all appreciate the great advantages that the Education Boards in this colony offer to those children of the settlers in remote parts who show the ability for it; but it really means that if one or two boys (or girls) in a school are entered for one of these scholarships the rest of the class have to do the same work. Consequently the penalty is paid by the rest of the class who are doing more work than they are able to do, and the result is that they may break down or become lazy spectators, seeing that they cannot digest the work of this standard. These children unconsciously are really wise in their generation, because they are reserving their bodies and minds for future use. Nor does the evil end here, because the class immediately below has to be prepared to take up the work of the scholarship class the following year, and the general standard of the whole school, even down to the little ones, is regulated by an examination for which in all probability they will never enter. As you all know, these Junior Education Board scholarships in the primary schools are only open to children under 13 years of age, and failure in the Junior does not (provided the candidate obtains about 65 per cent. of the marks) debar them from competing in the Senior with the three years' more education at school that it represents, and consequently those who have failed to obtain the Junior are during this interval straining every nerve to obtain the Senior prize, which gives them their only chance of proceeding to a university career.

Now, if one looks carefully into the course of study set for the highest class with the object of proceeding to a university degree in a girls' college or high school in New Zealand it means practically that when they have passed through it they have really aimed at a standard higher in some respects than that necessary for a pass B.A. degree. As a matter of fact, it is much more difficult to obtain a junior university scholarship in New Zealand than it is to proceed to a B.A. degree, which students are not supposed to reach until after a course of three years' extra study at the university. In a recent issue of THE LANCET the statement was made that at the last B.A. examination connected with the University of London (at which the average age of the women candidates is 23 years), out of 71 candidates 17 were manifestly anæmic (i.e., 25 per cent.), 15 wore spectacles, and some 20 stooped or sat twisted or crooked, the reason being that the course of study is entirely sedentary.

An odious system is prevalent in some schools. It is the practice of pouring in a mass of undigested knowledge which is allowed to remain untested until the objectionable

monthly or quarterly examination comes round. It is a sure sign of want of organisation and defective teaching. Every well-given lesson consists partly of teaching and partly of testing by cross-examination. Let the teacher revise the work done by all means, but do not subject the pupils to harassing and unreasonable examinations. The system adds extra strain on the child and only encourages cramming.

Now what is to be done to check these evils? I found that I could not answer this question to my complete satisfaction. I therefore consulted Miss Fraser, the head-mistress of the Wanganui Girls' College, a lady renowned for her organising capacity. Miss Fraser and her lady assistants are well known throughout the colony for their wonderful successes in the open competitive examinations and for at the same time keeping their girls in the very—to use a sporting phrase—"pink of condition." This is the ideal to aim at. Miss Fraser, to whom I am much indebted for her communication, has kindly permitted me to use her reply, which was as follows:—

Girls' College, Wanganui, Feb. 26th, 1901.

DEAR DR. SAUNDERS,—You have asked me to give an opinion as to how the evils incidental to unwise competition for scholarships may be checked. I give my answer with a certain amount of diffidence and first shall strive to classify what have seemed to me the chief causes of evil in cases where harm has resulted from competition. The following covers all the cases I have known. 1. Poor physique on the part of candidate. 2. Undue ambition of parents forcing a child to take up work beyond its mental powers. 3. Unskilled teaching power and weak organising power on the part of teachers. Cause 1 might, I think, to some extent be met by requiring from candidates a medical certificate as to fitness. The drawback to this is that medical men as a body are so tender-hearted that they grant certificates when the ordinary lay observer would judge them unwarranted. Cause 2. Parents are usually very amenable to reason, and a word of advice from the head of a school is rarely taken amiss if sensibly given. Cause 3 is the most fruitful of all causes. In New Zealand there is absolutely no provision for the training of secondary teachers, most of whom approach their work with no conception of the laws regulating the human mind, very many of whom are without the sympathetic insight into mental processes that is much better than knowledge of mere laws. These teachers, having no idea of *training* minds and developing natural powers, simply pour in knowledge in a more or less crude form till the poor brain becomes clogged and breakdown follows. The obvious answer, then, to Cause 3 is that there is urgent need for more intelligent teachers.

Perhaps you will permit me to say that so far as my experience goes cases of illness are at least three times as numerous among the girls who do little as among the girls who do much work. This is, of course, as it should be, for the least work is given to the least fit. I merely state the fact for the sake of showing that mental work, properly regulated, does not lead to an undue proportion of sickness among the workers. The most exacting examination of our country is that for junior scholarships in the University of New Zealand, but suitable candidates can prepare successfully for that while never touching a book after eight or half-past eight in the evening and while spending at least three hours a day in the open air. With cricket, hockey, tennis, basket ball, gymnastics, swimming, croquet, cycling, and photography to keep the body in good condition it is surprising how much work a bright mind can accomplish. Trusting that my answer is not too lengthy,

I am, yours sincerely,
(Signed) M. I. FRASER.

The more I have contemplated over this letter the more satisfied I am that the writer's opinion is accurate. Not very long ago, in connexion with the examination for medical degrees in one of the British universities, it was remarked by someone in authority that examiners ought to be "angels from heaven." Probably the authority in question meant in wisdom and graces rather than in the possession of special medical knowledge. A similar idea must have entered not infrequently the minds of parents and guardians. There is, I believe, a real need—not so acutely felt as it should be—for the education of the educators. It is said, with a wise neglect of mathematical accuracy, that every child who is brought to a hospital on account of chorea has received physical punishment on at least three separate occasions—once for general restlessness and naughtiness, again for breaking crockery, and a third time for making faces at his grandmother. How often has an unfortunate child suffering from enuresis been subjected to active discipline on account of a supposed moral defect termed "laziness," when the real defect that needed a direct remedy was the over-acid condition of the secretions? How often has physical castigation been applied by affectionate friends to so-called hysterical children who are really passing through a post-epileptic state? It has been stated, somewhat dogmatically perhaps, that if we knew everything we would forgive everything. And it might equally well be said that if we knew everything we should actually punish the ordinary child little or not at all. You recollect what Sir Samuel Wilks—when called in consultation to see an imbecile child who had been given all sorts of medicines, some presumably atrocious in flavour, by the conscientious person in attendance—*asked*, if it was expected thereby to produce an additional cortical convolution. "One of the early steps in the wise education of children is to recognise their limitations before exhibiting moral treatment."

There is no one who admires our army and navy more than I do, but the Imperial troops in one respect set our colonial boys a very bad example during their recent circuit through New Zealand. I refer to the absurdly tight-fitting uniforms worn by the officers and men. It is pitiable to see this existing at the commencement of the twentieth century, which prides itself on being civilised and scientific, for it is as certain as any proposition can be that the breathing organs and the limbs should have free play. One might expect such fads from foolish young ladies with pinched-in waists and wriggling gait engendered by that modern abomination of abominations, the abdominal corset, and the modern boot, which are regarded with so much contempt by all sensible men and women. There is now at the head of the War Office a strong, sensible, and practical man, and I venture to predict that ere long we shall note that Lord Roberts will revolutionise the attire of our soldiers even when on parade, for it is a known fact that if a number of soldiers and sailors take a long march on a sweltering day many of the former will fall out and not one of the latter.

INFECTIOUS DISEASES IN SCHOOL LIFE.

Of all the absolute pests of school life, infectious diseases must be placed first and foremost. When a serious outbreak occurs the schoolwork for the time being is demoralised. I consider that in all boarding-schools an infectious ward, isolated far away from the main building, should be insisted upon, because if this provision be made any suspicious case suddenly arising can be immediately isolated and its accurate nature soon determined upon and the necessary precautions taken. How many boarding-schools in New Zealand have such a ward? The so-called infectious ward is generally placed in, or is really a part of, the main building. The usual rules concerning infectious cases occurring during the holidays should be strictly enforced. It ought to be regarded as criminal for any parent to send his son or daughter back to school who has recently been the victim of any of the exanthemata without a certificate from a medical man that everything has been done in every direction to make the pupil's return safe and secure. This is a course, I believe, which is not at the present time carried out as it should be.

CARDIAC STRAIN IN SCHOOL-CHILDREN.

Cardiac strain is met with in school-children. It causes sudden definite and occasionally alarming symptoms which need special attention at the moment and care also of a continuous nature during school life. Many of these cases are, I am satisfied, "cured" by care; but, if neglected, they are prone to run a terribly rapid downward course. The question then arises, What kind of work and play may be permitted? Prognosis, of course, depends upon the valve involved, and the future line of action as to what rules and restrictions should be carried out must remain entirely at the discretion of the medical adviser, and these instructions must be rigorously enforced. In the majority of cases it will be found sufficient to exercise ordinary care, for the boy will be passing through the period of puberty when radical organic changes are being worked. As long as "compensation" keeps up and the bodily vigour is encouraged by suitable exercises "a prominent murmur, instead of sounding the death-knell, is a subject for congratulation," as Sir William Broadbent long ago pointed out. As a matter of fact, the pupil so troubled must not be kept in a glass-case; he should be encouraged to walk in the middle of the road, exercising his body according to his general condition and under the guidance, as I have already stated, of the medical adviser who will prescribe those exercises which are suitable and condemn those which are not. I attended a schoolboy about 10 years ago who had met with an accident, and in the course of my investigations I discovered a systolic murmur. I prescribed the usual routine of exercises suitable for him, but, like a boy, he soon forgot all about his trouble. In due course he went to Cambridge and it was only when he found that he had a certainty of rowing in the trial eights and a reasonable chance of getting into the Cambridge boat that the extra strain necessary for the occasion was brought home to him. He then, he told me, remembered my remarks, and, seeking advice, found it necessary to retire from the position which he had hoped to attain.

DEAFNESS IN SCHOOL-CHILDREN.

A condition of deafness in school-children is occasionally responsible for what teachers, from want of knowledge, may consider to be gross inattention or stupidity on the part of their pupils, and many a poor boy and girl has been punished when no punishment ought to have been inflicted. We all know the "vacant expression" brought about by adenoids and nasal obstruction and the dull, stupid look of the child so often accompanied by deafness. These are evils which, if left to themselves, cause in many instances future disaster, and teachers should be acquainted with the characteristics of these complaints and report accordingly. I look upon it as criminal for any teacher to "box the ears" of his pupil; it is a most reprehensible practice and occasionally it leads to serious disaster. There are other places for inflicting punishment: the ear is to be respected. I have heard it said that teachers never act in this way now. I trust that this statement is a universally accurate one, but that some parents continue this barbarous practice is certain, for I have been an eye-witness of the atrocity quite lately.

This is no world for lazy, stupid, and indolent people. Unless a boy works honestly at school he will have in this era of competition but a poor chance in the battle of life as fought nowadays. Both boys and girls, especially of the poorer classes, should be placed under much greater parental control than they are at present. We would then hear of less sad cases of disaster occurring which are due in by far the majority of cases to this neglect.

CONCLUSION.

Boys and girls should wear suitable boots. Boots and shoes too narrow and too short produce deformities of the feet which lead to physical misery in advancing years.

I originally intended to devote a considerable portion of this address to a consideration of outdoor games in schools. I find that I have already occupied too much of your attention and I will merely say that in the secondary schools of New Zealand and in the various colleges school sports of every description flourish. Immense advantages accrue to those engaging in them, for the moral influence of sport is to be regarded even higher than mere physical power and alertness. Outdoor games develop mutual control, command of temper, and honesty. It is a matter of satisfaction to find how much games are encouraged in our girls' schools. Football, our most popular game, I believe, brings out all the qualities that ought to be innate in a brave soldier. That I think to a large extent explains how it comes about that our boys in South Africa have rendered such an excellent account of themselves and have added lustre to the "Britain of the South."

The age in which we live is one of keen international competition, and the prize must ultimately be gained by that nation which, possessing great physical vigour, natural resources, or acquired means of sustenance, finds its opportunity in equable development of mind and body, in strict adherence to that which is right, in patience and persistence, and in the avoidance of all causes that lead to physical, moral, and mental degeneracy, for evolution proceeds apace in nations as in individuals.

THE HEALTH OF LEICESTER.—During the past 12 months the following certificates of infectious disease were received for the borough of Leicester: Diphtheria, 1080; scarlet fever, 764; erysipelas, 194; typhoid fever, 138; puerperal fever, 11; and small-pox, 4; total, 2191.

LONDON HOSPITAL MEDICAL CLUB.—A meeting of the London Hospital Medical Club and its annual dinner took place on Dec. 31st, 1901, at the Café Royal, Regent-street, W. Dr. Albert S. Morton of Putney occupied the chair, and was supported by Dr. Sansom, Dr. Herman, Mr. T. H. Openshaw, and others. Dr. Morton, in proposing the toast of "The King" pointed out that His Majesty had peculiarly honoured the medical profession by accepting the Fellowship of the Royal College of Physicians of London and of the Royal College of Surgeons of England, and that so far as tuberculosis and cancer were concerned, the knowledge of the King was equal to that of any medical man present. The company separated at 11.30 after a most enjoyable evening. The members of the club voted that a sum of 10 guineas should be given to the fund now being raised for the benefit of the family of the late Mr. William Smyth who so heroically sacrificed his life.

A Clinical Lecture
ON
ACUTE SUFFOCATIVE PULMONARY ŒDEMA.

Delivered in the Glasgow Royal Infirmary on March 8th, 1901.

BY JOHN LINDSAY STEVEN, M.D., F.F.P.S. GLASG.,

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I INTEND this morning to direct the class's attention to acute suffocative pulmonary œdema, an affection which may suddenly plunge the patient into the most acute agony and in a short time place his life in the gravest jeopardy. Fortunately, it is a disorder which is but rarely met with, but on that very account it is necessary that you should be acquainted with its leading phenomena, in order that when a case does occur in your practice you may not be taken by surprise and may be able to do the most that may be done for the relief of the patient.

Œdema of the lungs in its more chronic forms is a morbid state which is well known to, and easily recognised by, both the pathologist and the practical physician. It is, however, almost invariably a secondary or complicating condition the importance of which is quite subsidiary to that of the primary disease by which its incidence is determined. The chronic and even subacute forms of pulmonary œdema are usually met with in the course of cardiac, pulmonary, renal, and febrile diseases, and in the case of the specific fevers and diseases of the heart more particularly it is not infrequently associated with that passive hyperæmia of the lungs to which the name "hypostasis" is usually applied. The symptoms and the post-mortem appearances of this form of œdema of the lungs are very well known, and you will find them described in greater or less detail in all the well-known text-books of medicine. Your attention has frequently been directed to the symptoms of chronic pulmonary œdema in the course of our ward visits.

The affection of which I mean to speak, however, is of a different kind—at least as to its chief clinical phenomena. It can only be called "acute suffocative pulmonary œdema" and you will look in vain in most of your books for a description of it. If you look through a sufficient number you will find here and there short references to acute œdema of the lungs, but no detailed descriptions. Some of these references indicate a condition similar to that of which I am now speaking, but it is difficult to be sure. Hilton Fagge[1] speaks of "an œdematous inflammation of the lungs which comes on acutely and without previous disease," and gives references to "marked and severe cases" which, however, he says, "are rare." On consulting the accounts of the cases to which he refers I find that they are hardly of the same character as that which I am about to describe. To our case the term "œdematous inflammation" would not apply, as you will shortly see. Kingston Fowler[2] says that "cases are occasionally observed in which œdema of the lungs supervenes with remarkable rapidity during an acute illness of sudden onset." He relates briefly one case in which enormous quantities of frothy fluid were expectorated after three days of illness characterised by fever and pain in the chest. The nature of the case could not be determined and it was classified in the post-mortem reports under the head of "acute pulmonary œdema." Neither is this case similar in several particulars to those which I am about to relate. Strümpell[3] says: "In very rare cases, as we have seen, an apparently primary acute pulmonary œdema with a speedily fatal termination develops in men who were before that apparently perfectly healthy and the necropsy gives no further explanation of its origin. We probably have to do in these cases with the sudden failure of the left ventricle." Dieulafoy,[4]

[1] Text-book, third edition, vol. i., p. 1002.
[2] Diseases of the Lungs, p. 281.
[3] Text-book of Medicine, second American edition, p. 183.
[4] Pathologie Interne, thirteenth edition, tome i., p. 282.

under the heading of "*œdème brightique du poumon*," gives a detailed account of a case very similar to that which is the text of this lecture. The description given by this distinguished physician of his case of acute pulmonary œdema and his subsequent analysis and discussion of the symptoms are the most thorough and complete that I have met with. It is unnecessary to refer further to the literature of the subject and I shall now relate to you the clinical history of a very striking case of acute suffocative pulmonary œdema, as it is recorded in the ward journal. You have frequently examined the patient with me in the ward although you did not, as I did, see her in the depth of her agony. As the patient left for her own home in the North of Scotland yesterday I can now submit to you the full clinical report of the case, after which I shall recall to your memories the history of another patient whom you saw earlier in the session and who had several attacks of this affection—"*cette terrible complication*," as Dieulafoy calls it—the last ending in death. Having described the cases I shall offer to you a few remarks on the symptoms, diagnosis, and treatment.

The following are the clinical notes entered in the ward journal by my resident assistant, Mr. E. H. Roberts:—

CASE 1.—"A woman, aged 38 years, was admitted into the Glasgow Royal Infirmary in a somewhat collapsed and highly dyspnœic condition at 2.30 A.M. on Jan. 29th, 1901. She had retired to rest at 11 P.M. in her usual health. Shortly afterwards she felt that she could not get her breath properly, and attempted to improve matters by first lying on her left side, then on her right side, and lastly in the dorsal decubitus, but all to no purpose, the difficulty of breathing becoming rapidly worse. The dyspnœa was increased in a short time by frothy material coming up her throat which was chiefly whitish and at times pinkish in colour. The frothy fluid was expectorated in considerable quantity, the patient in the intervals gasping for breath. At this time severe lancinating pain was experienced across the front of the chest. A loud wheezing in the chest during the respiratory acts was observed by her. The patient was housekeeper to an old bachelor friend of Dr. Lindsay Steven who saw her at midnight and advised her removal to the Glasgow Royal Infirmary, whither she was removed in a cab. During the journey her condition was so critical that at times it was feared she would have succumbed. Upon admission she was gasping for breath. The face was somewhat flushed, the lips were livid, and she was freely expectorating a whitish frothy sputum. There was no cough. The respirations were noisy and wheezing, were greatly embarrassed, and numbered 34 per minute. The pulse was small, rapid, regular, and numbered 105 per minute. The temperature on admission registered 96·4° F., at 8 A.M. 99·8°, at noon 99·6°, at 4 P.M. 99·4°, at 8 P.M. 99·4°, and at midnight 98·6°. On auscultation of the chest, as quickly as possible, it was found to be the seat of fine and medium moist râles. By 6 A.M. she had sufficiently recovered to be bathed in bed, and by 9 A.M. she was able to lie down, her head being supported by two pillows, and henceforth she continued to make rapid and steady progress.

"*Jan. 30th.*—To-day the patient was almost herself again and it was possible to make a formal clinical report.

"*Past history.*—The patient states that she had always enjoyed good health until the onset of the present attack. She had never noticed any swelling of her face, but had noticed some swelling of her feet and ankles at night occasionally which she attributed to her having to be a great deal on her feet. She had never had any urinary trouble, not having noticed anything unusual in the quantity or appearance of her urine. She had been subject to headaches occasionally. There had been no nausea or vomiting, no anæmia, or general weakness. Her appetite had been fair.

"*Family history.*—Her mother is alive and well. Her father is dead, the cause of his death being unknown. She has two brothers who are alive and well.

"*Present condition.*—Decubitus is dorsal and quiet. She is well developed and of fair nutrition. The pupils are equal, medium, and react normally. The lips and mucous membranes are of normal colour. The tongue is moist and coated irregularly with a greyish fur. The respirations are quiet and unembarrassed, and number 26. The pulse numbers 76 per minute, is of fair volume, medium tension, and regular. The temperature is 98·6°. There is a highly varicose condition of the veins of the right lower limb, with brownish discolouration of the middle and lower thirds of the leg.

"*Respiratory system.*—The chest is well-developed and symmetrical, while the respiratory movements are of normal excursion. On examination nothing abnormal with the exception of an occasional moist râle is detected, the respiratory murmur being of normal vesicular quality.

"*Circulatory system.*—The apex beat is somewhat heaving and diffuse and located in the fifth interspace, three and a half inches to the left of the mid-sternal line. The præcordial dulness has the following limits: upper, upper border of the fourth rib; right, three-quarters of an inch to the left of the middle line; left, three and three-quarter inches to the left of the middle line. The greatest transverse measurement is three inches. There is accentuation of the second sound in the aortic area, while the first sound in the mitral area is somewhat low-toned; otherwise the cardiac sounds are pure.

"*Abdomen.*—The hepatic dulness cuts the sixth rib in the mid-clavicular line and measures vertically three inches. No splenic enlargement can be detected. On examination no abnormality is detected.

"*Alimentary system.*—The tongue is moist and coated irregularly with a greyish fur. The bowels are regular, but the appetite is indifferent. The urine is acid, its specific gravity being 1022; it is clear amber in colour, and there is a slight flocculent deposit. Microscopically hyaline and granular tube casts, leucocytes, and squamous epithelium are observed. Albumin is fairly abundant. The tests for sugar and blood are negative.

"*Feb. 1st, 1901.*—Since Jan. 30th there has been marked and steady improvement. The patient is now practically well. The temperature has ranged between 98·6° and 99°. The respirations have varied between 24 and 32, and the pulse between 68 and 78. She sleeps well and her appetite is fair. The bowels are regular. It has been impossible to estimate the amount of urine passed owing to some being lost."

The following note was made by me on Feb. 5th. "The whole course of this case indicates that the patient has been suffering from acute suffocative pulmonary œdema associated with acute renal disorder, as evidenced by the albuminuria and tube casts at the time of admission. Very great improvement is now to be recorded. Absolutely no trace of albumin is found in the urine this morning, which to the naked eye presents perfectly healthy appearances. The temperature throughout has been normal, and the quantity of urine on the whole somewhat less than usual. There is perhaps very slight accentuation of the second aortic sound and quite distinct of the second pulmonic. The first sound at the apex is slightly muffled in character and the apex beat is very vaguely palpable in the fifth interspace four inches to the left. Posteriorly pulmonary percussion is normal and the respiratory murmur presents healthy characters back and front."

The clinical notes continue: "*Feb. 12th.*—Since the above record the patient has remained practically well. Her appetite to-day is good, the urine is normal, and the bowels are regular. On examination of the lungs nothing abnormal is observed. The cardiac condition remains much as in the previous note. She is now allowed up daily, a Martin's elastic bandage being worn for the varicose condition of the veins of the right lower limb.

"*March 7th.*—Since the previous record the patient has remained quite well. The lungs, on examination, are found to be quite normal, as is also the heart. The urine is entirely free from albumin, and microscopically nothing beyond an occasionally squamous cell is to be observed. She leaves for her home in the north, feeling quite well."

The clinical record which I have just read to you may be taken as a very characteristic history of an almost pure case of acute suffocative pulmonary œdema occurring in the midst of apparent health and associated with renal disorder of a temporary character. Before offering some general remarks on the subject under discussion, I wish briefly to summarise for you the leading phenomena of a case which we have frequently examined together and in which the attacks of suffocative pulmonary œdema were but incidents in the development of a chronic cardiac and renal disorder.

CASE 2.—The patient, a man, aged 40 years, was admitted into the infirmary for the first time on Dec. 27th, 1899, on account of swelling of the legs of a month's duration, and shortness of breath on exertion, cough, and expectoration of a fortnight's duration. It is unnecessary to go into the clinical history in detail. It is sufficient to say that the man was found to be the subject of

aortic obstruction and regurgitation and of mitral regurgitation. In addition the presence of albumin, blood, and granular tube casts in the urine indicated a subacute nephritis, probably of tubular character. These parts of the case were frequently made the subject of clinical demonstration in the wards during both his first and his second residence, the latter beginning on Nov. 23rd, 1900, and ending with his death on Jan. 27th, 1901. At present we are interested in these elements of the case in so far only as they were complicated with attacks of acute suffocative pulmonary œdema, and I shall from the ward journal read to you the accounts written at the time of the first and the second last seizures. You will at once recognise that the paroxysms were in all respects similar to those occurring in Case 1, although, unlike the attack in that case, they did not come on in the midst of perfect health.

"*Dec. 30th, 1899.*—To-night, at 7.25 P.M., the patient was suddenly seized with great dyspnœa. He was terribly distressed for breath and plucked at the clothes on his chest. His face was cyanosed and the veins of the neck were distended. The pulse during the attack numbered between 150 and 160 and was full and bounding. There was a good deal of rattle in the trachea and he spat up copiously a white frothy material which later became pinkish. Amyl nitrite and inhalations of oxygen were administered with some relief, after which the pulse numbered between 120 and 130. The heart was beating very forcibly and the chest was full of râles. A hypodermic injection of strychnine ($\frac{1}{30}$ grain) was given. The patient still continued very breathless. His body was cold and covered with a profuse clammy sweat. The pulse continued about the same rate but varied greatly in force. Additional inhalations of oxygen seemed to give but little relief and stimulants were refused. The sputum became very profuse and was more distinctly red. About 9.15 P.M. strychnine ($\frac{1}{30}$ grain) was again given hypodermically. Dr. Lindsay Steven was telephoned for and saw the patient at 9.30 P.M. when the condition was much the same. Since then he has had brandy both hypodermically and by the mouth. At 11.30 P.M. the patient was still very ill and breathless. The pulse was fairly good and numbered about 140. His sputum was rather less profuse but distinctly red. The body surface was warmer and the sweat much less.

"*Dec. 31st.*—About 2 A.M. the patient began to recover from the seizure described in the foregoing note. Dr. Lindsay Steven from his own observation confirms the accuracy of the account, and taking all the phenomena into consideration is on the whole disposed to think that the seizure has probably been caused by embolism of one of the large pulmonary branches. The blood-stained and highly frothy sputum with the excessive struggling for breath were indicative of an acute pulmonary œdema, and the presence of the renal disease raised the question as to whether the whole seizure might not be uræmic in origin. The discovery this morning of distinct dulness at the right base below the scapula and of numerous fine, moist, crackling râles, chiefly inspiratory, and of a distinct bronchial respiratory murmur, is a strong indication in favour of embolism. At 3 P.M. the patient complained of cold but had no actual rigor. His pulse at 4 P.M. was 124 per minute and his respirations were 50. His temperature was 103·6°. He was not expectorating so much but the sputum was very bloody. He continued much the same and at eight o'clock his pulse was 120 and his respirations were 60 per minute. When seen at nine o'clock he was lying on his right side. The body surface was very warm and the skin was covered with sweat. The pulse was 132 and the respirations were 60 per minute; the breathing, however, was not very distressed. There was still a good deal of rattle in the trachea.

"*Jan. 11th, 1901.*—Last night about 7.25 P.M. the patient passed into a dyspnœic attack in all respects similar to that described in note of Dec. 30th, 1899. The seizure lasted until 2 A.M. and was accompanied by a frothy bloody expectoration to the extent of 26 ounces. During the seizure the respirations numbered 56 and the pulse 160; the chest was full of snoring and wheezing rhonchi; and the patient had to sit up, being unable to remain in bed. When the violence of the paroxysm had passed he was able to return to bed, but not to lie down, and in the sitting posture obtained short snatches of sleep. The expectoration examined this morning consisted of three parts—(1) a large amount of pink and white froth which floats on (2) a thin watery tea-coloured fluid, and, (3) of a very small amount of blood-clot at the bottom of the spittoon. The physical characters of the expectoration can only indicate acute pulmonary hyperæmia and œdema. This morning the apex beat is found in the fifth interspace five and a half inches to the left, and is abrupt and slapping in character. The cardiac area is greatly increased, particularly to the right. Right border two and a half inches to right of mid-line; left border five and a half inches to the left at level of fifth interspace. Upper border is at level of upper margin of fourth cartilage. A loud superficial ventricular systolic murmur is heard at the apex and faint ventricular systolic and ventricular diastolic murmurs in the aortic area. At the right base posteriorly, from the level of the sixth dorsal downwards absolute dulness on percussion is obtained, and in the area numerous fine crackling râles with inspiration are heard. Similar crackles are also obtained at the left base. Throughout the present residence the temperature has been normal or subnormal and the average daily quantity of urine rather above than below the normal amount. The amount of albumin has averaged about 2 per cent. (Esbach) and a trace of blood has always been present."

The patient died in a similar attack on Jan. 27th, 1901; and I now read to you Dr. C. Workman's report of the post mortem examination.

"*Post-mortem summary.*—Subacute tubular nephritis; chronic changes in aortic valve; stenosis of mitral valve; and congestion of other organs.

"*Post-mortem report.*—A well-developed and well-nourished body, rigor mortis still present. There is well-marked œdema of the lower extremities. The heart is enlarged. This is chiefly in left ventricle. The pericardium contains a considerable quantity of serous fluid. The pulmonary valve is competent; the aortic is incompetent. The pulmonary curtains are healthy. The aortic curtains are considerably thickened, especially along the margins. The right curtain and the adjacent portion of the posterior are infiltrated with lime salts. There is a large thrombus pyramidal in shape adhering to the margin of the posterior curtain. The endocardium over the septum immediately below the right aortic curtain is thickened over an area of about one inch square. The left ventricle is dilated and the wall is considerably hypertrophied. There is stenosis of the mitral valve and great thickening along the margin of the curtains. There are several small thrombi on the auricular surface of the valve. The left auricle is dilated. The right ventricle shows some hypertrophy and the right auricle is also dilated. Coronary arteries present one or two small patches of atheroma. Cardiac muscle is of good consistence and colour. Both pleural cavities contain a quantity of serous fluid. Both lungs present a number of adhesions to the chest wall. Both are deeply congested and œdematous and there is no evidence of pulmonary embolism or thrombosis. The liver is enlarged and presents a nutmeg appearance. The spleen is enlarged and congested. Both kidneys are enlarged, the capsules being non-adherent. The surface presents a mottled appearance, the yellow of the mottling being due to a fatty degeneration of the tubules. The left kidney presents slight hydronephrosis. No obstruction is found in the right ureter. The aorta presents a perfectly healthy appearance. The brain presents nothing unusual. The stomach and intestines are healthy. The weight of the organs is as follows: heart 19 ounces, right lung 39½ ounces, left lung 40 ounces, liver 80 ounces, spleen 13¾ ounces, and the right kidney and left kidney together 20½ ounces."

SYMPTOMS.

I have thus described to you, from the actual clinical notes written at the time, two cases of a morbid state which I have ventured to call "acute suffocative pulmonary œdema," and I think that you will agree with me that here we have an affection which might well find an independent place in nosology. The clinical phenomena of both the cases are striking and distinctive, but they differ perhaps in this, that the one may possibly be regarded as a primary and the other certainly as a secondary or complicating condition. The onset of the symptoms in Case 1 was so abrupt and the disappearance of the signs of renal disease took place so rapidly that we are perhaps justified in regarding the acute suffocative œdema of the lungs in this case as primary and the albuminuria as perhaps the effect rather than the cause of the pulmonary affection. As regards the second case there can be no reasonable doubt that the acute pulmonary œdema was merely a complication of the chronic

cardiac and renal disease from which the patient was suffering. Whether this view as to the nature of the two cases just described be correct or not, it may be granted that Case 1 was primary inasmuch as the pulmonary symptoms set in in the midst of apparent health and inasmuch as the renal symptoms disappeared with the pulmonary symptoms.

The symptoms of acute suffocative pulmonary œdema are so striking that there is, on the whole, but little difficulty in recognising their significance, especially after one has had the opportunity of seeing a case. Without warning, and without, as in our two cases, any over-exertion or excitement, the patient is suddenly seized with great difficulty of breathing accompanied by a sense of intense oppression behind the sternum. It is quite impossible for him to lie down, and almost simultaneously with the onset of the dyspnœa—a most important diagnostic point—expectoration of a perfectly white, finely frothy, watery sputum begins. The frothy fluid seems to flow up the trachea, and is expelled with a "hawk" as if clearing the throat, but there is no cough in the ordinary sense of the word. The sputum continues during the whole period of the dyspnœa and the seizure is not usually accompanied by fever. The pulse may be very rapid; and wheezing and fine moist râles are everywhere heard. The extremities soon become cold and blue, the face is ashen grey, and the agony and anxiety of the patient are extreme. After a little the frothy sputum becomes slightly pink in colour, and in some cases, after the attack has lasted for an hour or two, definitely bloody. In the course of five or six hours as much as one and a half pints of this frothy fluid may be expectorated. Such is a brief description of a morbid state which I can only interpret as significant of acute suffocative œdema of the lungs. The whole clinical phenomena indicate that the pulmonary alveoli are suddenly inundated with watery serum, and it is quite conceivable that such a condition might prove very rapidly fatal.

DIAGNOSIS.

Notwithstanding the characteristic nature of the symptoms, it is necessary to say something about differential diagnosis, as there are several forms of acute dangerous dyspnœa with which that of acute pulmonary œdema might be confounded, and to which I shall now briefly refer.

1. *Pulmonary embolism.*—The first thing that occurred to me on seeing both of the cases described in this lecture was that the patients were suffering from embolism of some of the larger branches of the pulmonary artery. Indeed, in Case 1, so strongly did the patient's general condition resemble that of pulmonary embolism that one of my first questions to her was, "Have you got bad varicose veins?" As we have seen she was the subject of great varicosity of the veins of the right lower extremity. In Case 2 the presence of valvular heart disease and the development subsequently to the seizure of dulness and moist râles at the base of the right lung suggested a diagnosis of pulmonary embolism. The subsequent course of both cases negatived such a diagnosis, and in Case 2 the necropsy revealed no evidence of embolism. The symptom which in my opinion establishes the diagnosis of acute œdema of the lungs as against pulmonary embolism is the rapid development, practically coincident with the onset of the dyspnœa, of white, frothy, watery expectoration which afterwards becomes slightly pink in colour. In embolism expectoration is a later development and when it is established the sputum is definitely bloody from the first.

2. *Acute spasmodic asthma.*—This is a condition which might be thought of in the presence of symptoms such as I have been describing. In asthma, however, although the distress of breathing may be very great, there is no expectoration during the attack, the expectoration only being established when the dyspnœa is passing off and usually being limited in amount to a few sputa of grey mucous pellets.

3. *Uræmic asthma of the ordinary type.*—This is usually not so severe as that which we have been considering, it is not so sudden in onset, and it is unaccompanied by the profuse frothy sputum or by marked physical signs of pulmonary œdema. Its occurrence, also, in the course of well-marked renal disease, usually of a chronic type, distinguishes it from the severer form of respiratory distress such as occurred in Case 1.

4. *Acute pulmonary œdema.*—This, with abundant watery expectoration, following the removal of large pleural effusion by the operation of paracentesis thoracis, is a condition which somewhat resembles, as regards the expectoration at least, that with which we are at present concerned. On one occasion I have seen this complication in a case where I had removed a large pleural effusion by tapping, but although the amount of expectoration was very large and the spitting lasted for nearly 24 hours there was none of the severe respiratory distress which was so alarming in the two cases of acute suffocative pulmonary œdema which I have narrated above.

TREATMENT.

This is all that I need say on the subject of diagnosis, and a few remarks upon the treatment to be adopted will form a fitting conclusion to this lecture. Both of these cases were treated by free stimulation, and I think that is the first therapeutic procedure which would naturally suggest itself to the practitioner on witnessing the state of collapse into which the patient soon passes. On account of the great dyspnœa and the overpowering sense of suffocation caused by the continuous flow of fluid from the trachea into the mouth the stimulants are better administered hypodermically and by the rectum. An ounce of brandy may be injected into the rectum diluted with an ounce or two of water or beef-tea. At the same time a hypodermic injection of strychnina ($\frac{1}{30}$ grain) and of digitalin ($\frac{1}{75}$ grain) may be administered. The patient should be kept absolutely at rest in the sitting posture. A sinapism over the præcordium is of assistance, and the extremities should be kept warm by hot bottles. Opiates in any form are, I think, to be avoided as tending to prevent the expulsion of the œdematous fluid from the pulmonary alveoli. The injections may be repeated, if necessary, in three or four hours. If the patient is able to swallow, diffusible stimulants such as sal volatile are certainly to be recommended, and small quantities of milk, beef-tea, and brandy from time to time.

The propriety of blood-letting also suggests itself in considering the treatment of acute suffocative pulmonary œdema and is favourably spoken of by Dieulafoy. The blood may be taken either at the arm or by wet-cupping of the chest. The depression and collapse, however, are frequently so extreme that I confess one hesitates to deplete. In spite of this Dieulafoy thinks it should be tried, and certainly from the point of view of a possible mechanical relief to the labouring heart it is a procedure which might be justified. In the first instance, however, I would advise free stimulation in the way which I have described.

An Address
ON
MENTAL SCHOOL HYGIENE.

Delivered at a Conference of Science Teachers arranged by the Technical Education Board of the London County Council on Jan. 9th, 1902,

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LADIES AND GENTLEMEN,—School hygiene considered as a science deals not so directly with the children as with their environment; it includes all circumstances which may affect the children and their teachers beneficially as distinguished from those conditions which are inimical to healthy growth and development. The care of the body and the well-being of the children come within the departments of public medicine and sanitation, while the culture of the mental aspects of a complete and healthy life necessitates the careful study of education, as well as scientific training with knowledge on the part of those whose duty it is to guide the teaching and care of children.

A connecting link between the various aspects of school hygiene is supplied by the study of the children themselves after the scientific methods employed in natural history. My present purpose is to show that mental science, founded upon the observation of facts seen in school-children, may furnish us with exact knowledge concerning methods of procedure in training, while sanitation is directed to the prevention of disease and bodily ill-health. Hygiene must

be studied in its effects upon the children; but children differ greatly and it has been shown that the environment and educational methods of a school act differently upon various groups of pupils. We should, then, study not only the education required in a school, but also consider the special adaptations that may be needed for certain groups of children who may somewhat differ from the average in mental or physical status. Those who habitually observe children will soon gain a practical acquaintance with their varying brain conditions and note points indicating good and intelligent action as well as faults or disorderliness, and thus become able to infer from what is seen the adaptations of method that are needed in training an individual child and building up true character.

The hopeful signs of mental aptitude and capacity for education as commonly seen in children are (1) spontaneity in movement and action; (2) control through the senses, leading to imitation of the teacher and coördinated action; (3) receptivity and retentiveness of impressions produced upon the brain (memory); and (4) response in action and later in the use of words the meaning of which has been gained by experience, showing intelligent mental action under guidance. Thus, we wish to see a lively facial expression with activity, talkativeness, and liking to take part in organised games and occupations, as well as good imitative power and accuracy increasing with practice. For mental healthiness and strength the child needs experience of mental impressions, graduated and connected under the control and guidance of his teacher—stage by stage—leading to coördinated brain-power such as may afford self-control and volition adapted by, and therefore in harmony with, the varying circumstances of adult social life.

The principal means of controlling the brain and producing in it those impressions which give the child an experience useful in subsequent education are through the eyes, the ears, and by muscular sense. The brain produces all movement and expression seen in the child; it is desirable early—before the use and meaning of words has been fully attained—to train movements in the young pupils; in other words, we seek to train the faculties of "attention," "controllability," and "response" at an earlier period than it is possible or advisable to give instruction and to impart knowledge. This should be the work of the kindergarten, where speech with the proper use of words may be acquired without books, and training is more useful than learning to read and write; and let me add, this may be accomplished without destruction of that healthy brain spontaneity which is the basis of potentiality for education. This elementary training in the infant school is most necessary; good mental faculty is not acquired by children left untrained and with nothing to do all day. In the training college no subject of study is more important for teachers than a knowledge of children based upon observation and scientific principles. Observation shows that some children are controlled more readily by sight than by the spoken word of direction; the former class of pupils are kept under better discipline by a signal intimation (sight) of what is required of them, than by a command to "go on," which may cause mental confusion and fidgetting. This mode of discipline is used practically in schools for the deaf. Training should proceed stage by stage, so as to preserve and to cultivate mental health and growth. Thus eye-drill is needed to obtain the power of accurate seeing, before learning to read, to write, and to work sums. Inaccuracy in arithmetical work on paper or the blackboard, in reading, spelling, and in transcription, is often due to irregular movements and want of control of the eyes; if they are directed towards the wrong figure or word a mistake results, but eye-drill tends to prevent such errors which are not mental. The pupil who looks at the mouth (not the eyes) of his teacher learns pronunciation from the lip movements seen. Children while still young may learn to imitate the planned free manual exercises of the teacher and to move their fingers, hands, and bodies usefully, in a manner trained or coördinated by practice, so as to bring them into harmony with the later requirements of advancing education. All this requires knowledge and thoughtful labour on the part of the teachers, but is easily acquired by young pupils, in whom such method produces faculty for attention, control, retentiveness, and useful experience.

Muscular sense trained in the performance of free hand exercises may be followed by experience in feeling graduated weights and size; then by the appreciation of weight and dimensions their comparison, proportions, and description. Colours should be seen separately, their names taught and subsequently associated with the colours. Feelings of number and weight and the sense of time may be taught by planned experience; then the numerals and, later, methods of comparison are understood by the association of previous experiences.

Impressions are more useful and better retained when produced one at a time; they must subsequently be associated in like classes in a mental exercise of comparison. Weight may logically be compared with weight, size with size, colour with colour, and when standards of comparison have been learned, correct inferences may be formed; without such care in teaching, mental confusion results in the pupil and leads to fatigue. In the pupil's brain, words are impressions produced by sound, or by sight when written; their meaning arises from association with the child's experiences. Words may become connected without meaning, such as the letters of the alphabet and the numerals, &c. Education conducted stage by stage, always planned so as to implant in the pupil's brain experiences to be subsequently used, gradually builds up without confusion or waste of energy the power to appreciate agreement and difference of mental impressions with comparison of the degree (quantity, number) and the time (duration or order of succession) of impressions gained by experience. As teaching proceeds mental guidance must be afforded to the pupil by certain terms of instruction; he must learn what is wanted of him when told to repeat what he has learnt; to add or to subtract figures, or as more complex and advanced to compare a buttercup with a daisy or one triangle with another. The early training suggested will do much to make him receptive of the mental methods required in advanced instruction. Happily most children are naturally quick enough to pick up some knowledge and mental ability under any teaching; but if the method of procedure be carefully graded and planned for sequential employment, I think it will be found that their advance is more rapid and sure, happier to themselves, and attended with little fatigue and misunderstanding. The method and consecutive order in teaching have much to do with the ease and rapidity of mental evolution as well as avoidance of mental confusion which is inimical to mental healthiness.

The observation of children and of their signs of brain action illustrates principles of wide application in mental hygiene and education, and affords a scientific basis for studying their mental abilities and faults. Early training of the natural characters of brain action by physical exercises prepares the way for the systematic cultivation of healthy mental action, and during the whole period of education the teacher's observation of the external evidence of mental status in the pupil will afford useful indications of the action and interaction of training and knowledge. Two examples may be given in illustration. Spontaneity of brain function is evidenced by movements seen in the face, the eyes, and the fingers; this is usually accompanied by analogous mental action. If this is well under control thoughts arising may easily be connected under guidance, while original thoughts are expressed. Mental spontaneity aids in recalling a fact or word forgotten; its failure is one cause of lessened memory and may be accompanied by the signs of fatigue. If spontaneity is not coördinated a crowd of thoughts arising leads to confusion and exhaustion. A spreading area of activity in the brain is seen in the display of emotion and mental excitement; if the increasing action is coördinated by direction, intensity of mental application may result, the greater activity raising some thoughts previously associated; on the other hand, if not guided, irregular mental action and exhaustion result.

There are many recognisable groups of children whose educational requirements differ and sometimes necessitate great discernment to assure that their respective needs are duly provided for. Nervous children may be recognised by a large amount of spontaneity, with a lively face, much movement of the eyes and fingers, the general balance of the body being asymmetrical, the head not held erect, and they are talkative. The hands when held out balance in what has been described as the "nervous posture." These children are gregarious in social disposition, quick-witted, encouraging one another in frivolity. Such pupils need careful training to prevent emotional excitement and the tendency to hysteria; physical exercises in imitation of their well-trained teacher are useful. Defective children are now happily provided for in our schools. Their training presents interesting problems; all require the elementary teaching that has been described.

The social and economic value of mental hygiene may be

illustrated by some results of investigation as to the physical and mental conditions of 100,000 children seen in schools. Time will only allow of a brief summary. Girls of school age are more numerous than boys, but their average school attendance is lower. Boys present a higher average number of dull pupils, and a higher proportion below normal development of body with brain-disorderliness. The proportion of girls who are delicate is higher than with boys, but among children of normal development the proportion of delicate ones is about equal. One-third of the dull pupils present signs of listlessness, lounging, inertness, which are largely removeable by attention to physical exercises and movements. The want of good training is a more general cause of mental dulness than congenital deficiency. In schools where physical training is well carried out the proportion of dull pupils is lessened.

The study of children and their requirements may draw together those who differ on many educational points and afford a basis for wise and united efforts in national education. I trust it has been shown that mental hygiene is a department of scientific knowledge based upon physiology, and that observation of children possesses a practical value entitling its inclusion in a scheme of university teaching.

VOLKMANN'S CONTRACTURE.

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THIS deformity, which was first described by Professor Richard Volkmann[1] in 1875, has since received little attention from the medical profession in this country. There is little to be found on the subject in books on surgery (either past or present) or on deformities, or, in fact, anywhere in the literature, except in a few scattered papers of which those by Page, Littlewood, and Barnard are the best; full reference will be given to these papers later. This form of contracture is said to be rare. This statement, I think, is incorrect; it is far more probable that it is only rare in the sense that there is a scarcity of literature on the subject. I have considered it best to give first the four cases which have come under my own notice and which are recorded here for the first time; secondly, to give a summary of all the cases in the literature as far as it has been possible to do so; and, finally, to discuss the deformity at length.

CASE 1.—The patient, a child, aged five years, was admitted into St. Thomas's Hospital under the care of Mr. H. H. Clutton on Sept. 15th, 1897. At Christmas, 1896, she had fallen downstairs and had broken her right arm just above the elbow-joint. She was taken at once to a medical man, by whom the fracture was set and the arm was put up in splints. According to the relatives there was no trace of a wound when the arm was first seen. Two days later they called in another medical man who took the splints off and found that there was a considerable wound over the seat of the fracture and a great deal of inflammation present, while the fingers were swollen and discoloured. The arm was dressed but the splints were not reapplied. Wasting and contracture seem to have set in during the process of healing, which appears to have been very slow and not finally completed until about six months after the original accident. On admission into St. Thomas's Hospital the condition was noted as follows: "The whole right arm is wasted, the forearm especially, consisting of little more than skin and bone. It is held pronated midway between pronation and supination and slightly flexed on the arm. The hand is flexed at right angles to the forearm; the fingers and thumb are slightly flexed on the palm. Extending right across the elbow-joint is a large scar which has produced considerable contraction in the surrounding skin. At the inner end of this scar begins an abnormal bony prominence on the inner edge of the humerus, half an inch above the front of the internal condyle which appears to be in the normal position. A sharp ridge runs upwards from this bony point which is just beneath the skin. Complete flexion of the forearm is prevented by this bony prominence. Movements of pronation and supination cannot be performed actively and only to a slight extent passively. The head of the radius appears to be in the normal position, likewise the head of the ulna. The hand cannot be moved voluntarily. The interossei act fairly well. The fingers are flexed on the palm. Sensation of hand and forearm is normal; the hand cannot be extended." Dr. H. G. Turney, physician to the electrical department, reported that the electrical reactions were normal. The diagnosis of ischæmic myositis was made. The treatment adopted was massage twice daily. On Oct. 15th the following note was made: "There is some improvement of the movement of the fingers, otherwise the condition practically remains unchanged, despite the massage twice daily." The patient left the hospital on Oct. 25th, 1897. On Nov. 22nd, 1901 the child was brought up to St. Thomas's Hospital at my request (Fig. 1). The forearm was extremely wasted, more so if possible than before, except at the upper end of the forearm, where the muscles were more bulky and firm and hard. The forearm, which was strongly pronated, was considerably shorter than its fellow, and the bones—i.e., the radius and the ulna—were much smaller in every way. The hand was flexed and could not be extended, neither could pronation or supination be performed, while the fingers were more pliable than they usually are in such cases, being able to perform all movements to a certain extent. The inter-phalangeal joints were flexed, but on full flexion of the wrist they could be completely extended. The hand was cold and blue, but sensation was absolutely normal. There were no trophic changes of the skin or nails, &c. The finger-joints were quite normal. There was a well-marked prominent boss at the back of the wrist-joint. There was a large scar at the upper part of the forearm, showing the site of a past extensive pressure sore. All movements of the elbow-joint were perfect. Electrical reactions to both nerves and muscles

FIG. 1.

Showing condition of hand and forearm in Case 1 on Nov. 22nd, 1901

were normal; it was surprising to see such atrophied muscles contract so sharply and so strongly. Both Mr. Clutton and Dr. Turney who saw the patient considered the case to be the worst one that they had ever seen. When the child left St. Thomas's Hospital in 1897 the parents were told to try massage. When I inquired of the child's father to what extent he had carried out the instructions his answer was: "As I found no improvement after three weeks' massage I gave it up as useless." I think that I can therefore state that the patient received practically no treatment, hence this disastrous result.

CASE 2.—The patient, a man, aged 20 years, was admitted under the care of Mr. Bernard Pitts into St. Thomas's Hospital on April 13th, 1898. He gave the following history. On June 18th, 1897, he sustained an injury to his forearm by means of a sledge-hammer; he was seen by two medical men at the time of the accident and five weeks later in the out-patient department at a "general hospital." The diagnosis of the injury was different in each case—(1) bad sprain, (2) dislocation of the wrist, and (3) fracture of the lower end of the radius and ulna. The practitioner who attended him at the time of his accident bandaged the forearm and hand on an anterior splint which reached the tip of the fingers. There was a good deal of swelling when the splint was applied. There was no discolouration of the fingers and only slight pain occurred. Five weeks later he went to the hospital. The splint was removed, there was no contracture now, and the arm was put in plaster for more than two months. (It will be noticed that contraction would be impossible if the splint reached to the tips of the fingers, but that it occurred as soon as the plaster splint was applied, as this reached only to the wrist-joint.) At the end of that time massage was applied and passive movements were practised. Contraction of the fingers on the palm of the hand was well marked two months after the accident. As an operation was advised at the hospital he left that institution and came to St. Thomas's Hospital. The left arm was now much wasted and the patient held the wrist flexed and likewise the fingers; all movements were considerably diminished. There was no scar on the forearm or hand which might show the site of a past pressure sore. There was no report on the electrical reactions. The treatment adopted was massage and faradic current daily. The patient left the hospital on April 27th, 1898. On Nov. 7th, 1901, I saw him in the electrical department at St. Thomas's Hospital. He told me that for over a year after he left the hospital he had had massage and passive movements for "some time" each day. The contraction very gradually improved and he could extend the fingers slightly at first and more so as time advanced; there was now no contraction; the fingers were held in the position of semi-flexion, but the movement of extension was perfectly good. The wrist movements were normal. The forearm was slightly smaller and shorter than on the opposite side and the muscles seemed to be firm to the touch. The power was not quite so good as on the opposite side. Sensation was absolutely normal. The electrical reactions which I took myself were normal, both nerves and muscles. The circulation in the hand was good and the skin was quite normal. The patient worked now as a watchman and could do his work, or any other, perfectly well.

CASE 3.—A child, aged five years, was admitted to St. Thomas's Hospital on June 25th, 1898, under the care of Mr. Pitts. On April 20th, 1898, he had fallen down and fractured his right arm. When seen in the casualty department of the above hospital it was found that there was a greenstick fracture of the right ulna and radius at the junction of the middle and upper thirds. This was set and put up on anterior and posterior splints. He was seen again in a week (April 27th), when the splints were removed and the arm appeared to be progressing satisfactorily; the splints were re-applied, and the patient was seen again on May 3rd, when the arm was in good condition and the splints were again re-applied until May 9th. During this last week the boy's mother noticed the fingers to be slightly swollen. On removal of the splints a sore was found on the flexor surface of the forearm; this was dressed and the splints were re-applied. On

May 25th the wound was almost healed, but the fingers were flexed and the wrist was slightly contracted. Passive movements, massage, and the galvanic battery were given every other day, but the contracture did not improve. On admission into the hospital he seemed to be a healthy-looking boy with contraction of the hand. The wrist was partially flexed, and the fingers—i.e., the two terminal phalanges—were strongly flexed and could only be extended on full flexion of the wrist. The wrist and fingers could not be extended at one and the same time. There was no loss of power of extension of the wrist. The electrical reactions were normal. The treatment adopted was massage twice daily. On August 15th there was considerable improvement in the affected arm; the tendons were not so tense and the wrist-joint was moved with more freedom. The patient left the hospital on August 6th, 1898. At my request the child came to see me in the electrical department on Nov. 14th, 1901. Over three years had elapsed since the accident. There was now absolutely no deformity of the hand and the position of the fingers was normal. There were very slight weakness and wasting of the forearm muscles, which were firm and hard. The scar of the old pressure sore was a prominent landmark about the middle of the forearm. Sensation was normal and the electrical reactions were also normal. The mother, to whom the recovery was chiefly due, told me that she had persistently, and right up to the time of my seeing the patient, carefully rubbed his arm night and morning. He had also been taught to manipulate the mangle and, as soon as he could do so, to wring out washing; in fact, every movement that was of any service was employed. The boy was taught to bend his fingers backwards whenever he could, and it was done for him every night and morning after the massage. The deformity very gradually disappeared—in fact, it was only during the last three months—i.e., since August, 1901—that there had been noticed complete absence of any deformity. The patient was now able to do ordinary work as well as any one of his own age.

CASE 4.—The patient, a child, aged four years, was an out-patient at St. Thomas's Hospital. On Dec. 6th, 1900, she had broken her right upper arm just above the elbow. There was a good deal of swelling at the time. She came to the casualty department, where the arm was put up in a flexed position in plaster splints. On the next day the fingers were swollen and were, according to the child's mother, dark in colour, but this fact was absolutely disregarded by the parents. The patient was not brought to the hospital till the fourth day after the application of the splints. There had been no pain and I suppose that this must have been the reason for such delay. When the splints were removed there was found a large pressure sore on the flexor surface of the forearm at the upper part and contraction of the fingers had commenced. The arm was dressed and only lightly bandaged. On Jan. 17th, 1901, I saw her in the electrical department at St. Thomas's Hospital, where she has continued ever since under the care of Dr. Turney. At that time the following notes of her condition were taken: "The elbow-joint is fixed and in a semi-flexed position. The forearm is held pronated and the muscles are much wasted and seem very firm to the touch. There is strong contraction of the second and third phalanges into the palm of the hand with extension of the first phalanges. The wrist is semi-flexed and the fingers cannot be extended except on full flexion of the wrist. The wrist and fingers cannot be extended at one and the same time. The action of the interossei is fairly good. The hand is cold and sensation is normal. There is a scar on the ulnar side of the forearm on the flexor aspect at its upper part showing the site of the past pressure sore. The electrical reactions are absolutely normal except in those muscles supplied by the ulnar nerve in the forearm and hand, which show diminished faradic and galvanic irritability. The nerve also shows diminished reaction to the faradic current. The finger-joints are unaffected. There is well-marked thickening of the internal and lower end of the humerus, and this, I think, limits movements of the forearm on the arm. Dr. Turney examined the case and diagnosed it as ischæmic myositis; he also found the electrical reactions as above. Massage was ordered by Dr. Turney and was carried out three days a week, for 15 minutes at each visit, by a competent nurse, the mother doing the massage as directed in the intervals of her visit to the hospital. The condition has shown some improvement, but the contraction is quite typical. It is now 10 months after the accident, and both flexion and extension of the forearm can be well carried out, also pronation and supination, but to a much less degree. The hand is still in the same position, but the movement of the fingers is better. Passive extension of the fingers causes the child a good deal of pain, but not nearly so much as it did. Sensation is normal. Skin normal. No trophic lesions. Electrical reactions quite normal even in the ulnar distribution, so it is likely that the partial loss before was due to splint pressure. The circumference of the forearm is markedly diminished as compared with the sound side and there is obvious shortening. Treatment is carried out exactly the same as before."

FIG. 2.

Condition of hand in Case 4 on Jan. 17th, 1901.

The illustration (Fig. 2), for which I am indebted to Mr. Grimwade, shows the absolutely typical condition of the contraction. I know also of three other cases, but these I am unable to record owing to the fact that I cannot obtain full notes of them.

The following is a brief account of all the cases the literature of which I have been able to obtain.

CASE 5.—A boy, aged eight years, came under the care of Mr. Raymond Johnson with extreme contraction of the wrist and fingers following fracture of the lower extremity of the humerus.[3] The case had been treated by means of wooden splints which, as a result of undue pressure, had produced a sore on the front of the arm. The length of time between the fracture and the subsequent deformity of the wrist and fingers was not stated. Some slight degree of contractility still remained in the affected muscles—i.e., the flexors of the fingers. An exploratory operation had shown that there was no abnormal condition of the nerves at the seat of the fracture. A diagnosis was therefore made of Volkmann's "ischæmic paralysis." In order to relax the contracted tendons a short piece of bone was excised from the middle of the shaft of the radius of the ulna. The effect on the contracted wrist and fingers was satisfactory, but, unfortunately, the divided bones were repaired only by fibrous tissue and a leather splint was necessary to give strength to the arm.

At the discussion at the meeting of the Harveian Society after the reading of this case Mr. Edmund Owen said that he had met with three cases of this sort, all in children. He described one in which the forearm had been fractured in its upper part with subsequent ischæmic myositis. He had cut down on the median nerve and had found it healthy, but the flexor muscles were in a state of fibrous degeneration. Division of the contracted tendons had produced an unsatisfactory result.

CASE 6.—A girl, aged six years, was admitted to Guy's Hospital under the care of the late Mr. J. N. C. Davies-Colley[3] on May 18th, 1898. The child had fallen out of a cart and had broken her right arm in 1896. The medical man who attended the case is reported to have said that there were three fractures about the elbow-joint and that the humerus was split longitudinally to about the middle of the shaft where there was a transverse fracture. The arm was set and it got quite well except for a lump which formed just above the elbow and prevented the child flexing her arm. This lump, together with a ridge which formed along the line of the splint, was removed by Mr. Pollock on the December after the accident with a good result. The power of flexion of the forearm returned. (Owing to the death of Mr. Pollock the case came under the care of Mr. Davies-Colley.) The condition of the patient was reported to be as follows: "Elbow very prominent, otherwise normal; wrist is flexed at a right angle; metacarpo-phalangeal joints are extended; the inter-phalangeal joints are flexed. Extension of forearm is perfect, while there is no power to extend the wrist, and very slight power to extend the phalangeal joints. The forearm is pronated with great limitation of pronation and supination. Sensation normal. Slightly above the level of the elbow-joint is a T-shaped scar, and on pressure in this area a few small tender nodules are felt. The flexor muscles of the forearm are wasted and hard. There is no evidence of any nerve palsy. There has been a pressure sore in this case, which is shown now by induration of the skin and muscles, which are wasted." The treatment adopted was as follows. A three-inch incision was made in front of the forearm, just below the elbow-joint. The muscles, which were much wasted and were formed chiefly of fibrous tissue, which was also intimately connected with the median and ulnar nerves, which were rather swollen, were otherwise healthy. The affected muscles—viz., the flexor sublimis, flexor carpi ulnaris, palmaris longus, flexor carpi radialis, pronator teres, and the flexor profundis—were partly cut and partly torn through. Vigorous efforts were made to straighten the wrists and fingers, which succeeded as regards the wrist but not the fingers. The result of the operation was perfect extension of the wrist, but all attempts to extend the fingers were useless. One month after the first operation a second was performed. An incision was made just above the wrist line; the tendons of the flexor sublimis, flexor profundis, and the flexor longus pollicis were cut through; the fingers and thumb were completely relaxed. The arm and hand were put in position on a splint with the fingers and wrist fully extended. Three months after this operation the fingers were in a good position and had good movement except for flexion, which was, of course, absent.

Mr. Davies-Colley, in the same paper, also narrates a case of myositis in the calf muscles, that of a boy with very bad talipes equinus, so that the toes were pulled down so much that they looked like "claws." Two years previously he had sustained a compound fracture of the tibia and fibula, the calf muscles being injured. The parts healed after long suppuration. Mr. Davies-Colley had divided the tendo Achillis, all the tendons behind the malleoli and the flexor longus hallucis, so that the boy had his toes and foot in good position.

CASE 7.—A boy, aged six years, who was sent to Mr. J. Jackson Clarke,[4] gave the following history. Six weeks previously he had sustained a fracture of the lower end of the humerus, which had been put in splints and had re-set three days later. There had been much swelling of the elbow joint and for the first two or three weeks the boy screamed if his fingers were touched and was incapable of moving them. The swelling about the joint subsided in five weeks, but left it immobile from adhesions, which were afterwards broken down under chloroform. When Mr. Clarke first examined the patient there was no reaction in any of the muscles of the forearm to either the galvanic or faradic

current, but after a week's treatment with galvanism and massage slight reaction was noticed, which was followed by some reaction in some of the flexors of the wrist, but the flexor sublimis digitorum, pronator teres, and pronator quadratus never reacted at all, but the supernator longus always reacted. Sensation returned coincidently with the partial return of muscular reaction. Under this treatment the boy got back considerable power in the forearm, but the thumb muscles were very obstinate. For some weeks he had fair use of the arm and hand, but the whole arm then began to waste, stiffen, and become much more pronated. Sensation was perfect. Clawing of the hand began four months after the original accident, and it increased in spite of massage. As soon as the deformity had ceased to increase Mr. Clarke divided the flexor tendons above the wrist. This operation removed the whole deformity.

CASE 8.—A boy, aged four and a half years, was admitted into St. Mary's Hospital on Nov. 5th, 1898, under the care of Mr. H. W. Page.[8] In the preceding month he had fallen on his left elbow and had sustained a transverse fracture of the humerus. (Separation of the lower epiphysis was not excluded.) The treatment adopted at the time of the accident was anterior and posterior splints to the forearm, with the limb put up in a flexed position. All seemed well the next day, but when the child was brought to the casualty-room a few days later there was found to be total loss of power in the fingers and wrist. There was a superficial slough immediately below the bend of the elbow caused by splint pressure; this became detached in about four weeks, and left an open wound which healed by granulation. The treatment employed at the second visit to the hospital was a single posterior splint, which was, however, abandoned at the end of four weeks, and the parents were instructed to manipulate and rub the arm, for an increasing tendency to contraction of the fingers had been noticed, and the wrist was also becoming more and more flexed. The attempt at reduction under an anæsthetic was fruitless. Mr. Page first saw the patient three months after the accident; the child's arm was then described as follows: "It is flexed and in a position midway between pronation and supination. There is extreme flexion of the wrist and the fingers are flexed on to the palm. The old scar is tender, so is the forearm. The joints are clearly unaffected. Extension of wrist and finger is hardly possible even with force. There is partial anæsthesia, only involving the ulnar distribution of the hand, and some wasting of the first dorsal interosseous muscle. The flexor muscles seem firmer than usual. No injury can be detected to the median, musculo-spiral, or ulnar nerves, except that previously mentioned. My own belief is that there had been a separation of the lower epiphysis of the humerus. Contraction is not lessened under an anæsthetic." Massage, electricity, and passive movement were all found to be useless. On Dec. 20th, 1898, Mr. Page operated. An incision was made just above the wrist line, and the tendons were lengthened in the usual way. The muscles gave the impression of being stiff and unyielding, firmer than natural, and as if their structure had been changed. The hand and arm were secured after the operation in the flexed position. The parts healed by first intention. At the end of 14 days gradual passive movements of the forearm, the hand, and the fingers took place. Massage and electricity were added. The patient left the hospital in February, 1899, with very slow improvement. He then attended the out-patient department for electrical treatment, under the care of Dr. Wilfred J. Harris, who stated that there was at first very decided reaction of degeneration in the affected muscles; recently the condition was not so marked. In July, 1899, Mr. Page next saw the child. There was now distinct improvement. The forefinger tendons had not united, otherwise all had. By October, 1899, great progress had taken place. All the tenderness had gone, the forearm could be completely extended, and the wrist and the hand could be voluntarily put in the extended position. Flexion of the fingers was easily performed and the child could "make a fist." In the forefinger the flexor profundus alone acted upon it. The muscles of the forearm had lost that peculiar sense of resistance so characteristic of them.

CASE 9.—A girl, aged eight years, was admitted into the Leeds Infirmary under the care of Mr. H. Littlewood[9] on Nov. 17th, 1898. Four months before admission she had a fracture separation of the lower end of the humerus, with a good deal of swelling of the parts. The arm was put up in an internal rectangular splint for five weeks. When the splint was removed it was noticed that the fingers were contracted and the contraction gradually increased. There was some limitation of the movements of the elbow-joint; it could be flexed to about a right angle, but could not be completely extended; flexion was limited by a bony prominence at the inner side of the lower end of the humerus. Extension of fingers was impossible except when the wrist was flexed and then it could be easily accomplished, otherwise the fingers were contracted into the palm of the hand. There was no sign of any past pressure sore. There was a lump in the upper third of the forearm on the flexor aspect, situated in the muscles. There was some loss of sensation in the ring finger and in the little finger. An operation was performed on Dec. 5th. All the flexor tendons were lengthened about an inch; the fingers and wrist were extended. A firm thick pad of antiseptic wool was applied from the finger tips to the elbow. The wound healed by first intention. After leaving off the dressing for a few days it was found that there was a tendency to contraction of the sutured tendons. To prevent this the limb was massaged and a back splint was worn for two or three hours every day. The patient's condition so improved before leaving the infirmary that she could do some knitting. The parents had persevered with the rubbing and the child had a very useful hand as the result.

CASE 10.—A girl, aged six years, was admitted under the care of Mr. Littlewood[7] into the Leeds Infirmary on Jan. 7th, 1899. In May, 1898, she had fallen from a ladder and had sustained a severe fracture about the left elbow-joint, also of both bones of the forearm. There was considerable swelling of the parts and the fractures were with difficulty kept in position. A splint sore formed about the middle of the back of the forearm. Contraction of the fingers was very marked so that in flexion of the wrist the fingers could not be fully extended. Eight months had elapsed since the time of the accident. Both fractures had united and movement of the elbow-joint was good. A lump in the flexor muscles of the forearm was well marked. The operation was performed on Jan. 9th, 1899. All the tendons except the flexor carpal ulnaris were divided, lengthened about an inch, and sutured. Similar dressings were used as in Case 9. The wound healed by first intention. Daily massage was employed and the patient left the infirmary on March 14th, 1899. The fingers were then quite straight and she had some power of flexion. When the case was reported the condition of the implicated parts was greatly improved and the attainment of a very good result appeared probable. On exposing the nerves they were found to be healthy, in both this case and in the preceding case (Case 9).

CASE 11.—A girl, aged three years, was admitted into the Metropolitan Hospital on May 2nd, 1900, under the care of Mr. H. L. Barnard,[8] with the following history. On March 16th, 1900, she broke both bones of the right forearm about the middle; anterior and posterior splints were applied. She was seen on the next day; there was no pain. When the splints were readjusted at the end of the week a pressure sore was found extending about three inches from the middle of the front of the forearm to the front of the wrist, whilst a smaller sore was found at the back of the forearm in its lower part, and a still smaller one upon the thenar eminence. The sores rapidly healed, as did the fracture also. No note was taken at the time whether the child moved her fingers or not. About the middle of April the fingers and the top joint of the thumb began slowly to flex, and this flexion steadily progressed in spite of massage and the restraint of a splint. The position of the hand on admission into the hospital was that of *main-en-griffe*. When the wrist was extended the fingers were extended at the metacarpo-phalangeal joints and flexed at the inter-phalangeal joints. The last phalanx of the thumb was fully flexed. When the wrist was completely flexed the fingers could be extended. There was no definite anæsthesia. Voluntary movements of the hand and the wrist were practically lost. On June 27th a chronic whitlow was seen on the tip of the right index finger. On Dec. 10th Mr. Barnard operated. The four tendons of the flexor sublimis, the tendon of the flexor longus pollicis, and six strands of the flexor profundus were lengthened in the usual way and the tendons were sutured. Although no tourniquet was applied there was very little bleeding; the wound was very dry. The muscles exposed were pale, firm, fibrous, and dry, very unlike the muscles of children. The arm was put on a splint with the fingers fully extended. The wound healed by first intention. The after-treatment adopted was massage and passive movements every other day. They were begun 14 days after the operation. The child wore a back-splint at night, as there were signs of further contraction. During the day the sound arm was tied to the side so as to give the injured arm plenty of movements when the child was playing with her toys.

CASE 12.—A little boy, aged four years, was admitted into the Metropolitan Hospital on May 12th, 1900, under the care of Mr. Barnard. On March 15th the patient had crushed the upper part of his left forearm, producing extensive swelling from effusion of blood; fracture was excluded by the x rays. The arm was placed on an external angular splint and was only lightly bandaged as it was very painful. About five weeks later contraction of all the flexor tendons commenced, and when seen by Mr. Barnard his hand was in the condition of *main-en-griffe*. The usual wrist sign was present. The forearm was fully pronated and fixed. There was no definite anæsthesia of the hand, although the skin of the digits was smooth and glossy and the whole hand was much colder than its fellow. Patient and persistent massage and passive movements all produced no improvement—in fact, the contraction increased. On May 30th Mr. Barnard operated, splitting the tendons of the flexor sublimis, the flexor profundus, and the flexor longus pollicis as before and then suturing them. Absence of hæmorrhage and dryness of the wound were nearly as marked as in Case 11. The parts healed by first intention. The same treatment was adopted as was used in the last case. A chronic, painless whitlow appeared on the index finger. Improvement was very marked after four months' treatment. As the hand was still pronated Mr. Barnard operated again on Oct. 20th. The pronator quadratus was separated from its ulnar attachment, then the forearm was readily supinated and fixed in this position on a splint. The after-treatment consisted of a splint at night, passive movements, and massage every day. There was very fair rotation of the forearm. In this case and in Case 11 the patients were progressing favourably at the time that this paper was written. The electrical reactions of the muscles of the forearm in this case were made by Dr. W. S. Hedley lately, who stated that he obtained a reaction of degeneration.

CASE 13.—The patient, a female, aged 20 years, came under the care of Mr. F. C. Wallis,[10] at Charing Cross Hospital in July, 1900, with the rare deformity of congenital absence of the superior radio-ulnar articulation in both forearms. The right forearm was capable of some degree of supination, but in the left it was impossible to obtain any such movement. In consequence the girl was unable to earn her living. Mr. Wallis operated at the earnest desire of the patient and her friends on July 6th, 1900. The operation took one and a quarter hours, and during this time an Esmarch's bandage was kept round the upper arm. The radius was divided close to the head and the arm was forcibly supinated; in doing this the ulna was fractured in its lower third. The wound was closed and the arm was fixed in splints. 24 hours later the arm, which was much swollen, was red and covered in places with large bullæ. Paralysis and loss of sensation seemed complete and the general temperature was raised. The splints were immediately removed and some stitches were taken out to relieve tension and the arm was redressed. There was no suppuration, gradually the swelling diminished, but the paralysis continued, and the fingers assumed the position of *main-en-griffe*. 10 days after the operation it was found that the anæsthesia of the forearm and hand was confined chiefly to the ulnar and median distribution. Passive movements were now daily performed and galvanism was applied, but the ends of the fractured ulna were unable to unite owing to these movements. Three months after the operation Mr. Wallis wired the fractured bone with good result. The condition of the hand and forearm after the ulna had united was reported to be as follows: "With the wrist extended the second and third phalanges are flexed on the palm; with the wrist flexed the fingers can be extended; the thumb is practically useless and the muscles of the hand are much wasted. Loss of sensation as before." For the next seven months the hand and forearm were daily galvanised and faradised, and a hot-air bath was used. Massage was daily performed and on three separate occasions the wrist and fingers were manipulated under gas. This treatment at first gave good results; the muscles of the upper part of the forearm improved, the fingers could be easily extended, and a certain amount of active movement was restored to the fingers and thumb. The wrist was more pliable and sensation was much improved. The skin was normal. This was the condition of the patient's arm nearly 12 months after the original operation. A second operation was now performed. The tendons of the flexor sublimis, the flexor profundus, and the flexor carpi radialis

were divided and lengthened in the usual way. The tendon sheaths on being opened were found to be much thickened and more vascular than usual. The median nerve was found to be surrounded by fibrous tissue, which was adherent to the nerve sheath. The muscles exposed were pale in colour and their fibres were to a great extent replaced by fibrous tissue. The wound was closed and the hand was placed on a back splint with the fingers extended. Passive movements were commenced at the end of a fortnight and active movements in the middle of the third week. Galvanism and massage were also applied. The report proceeds: "The present condition of the hand is one of improvement. Sensation has completely returned over the distribution of the radial nerve, and partially over the median, but the ulnar shows little progress. After massage the fingers are quite supple and the range of movement is much increased. She can also use the hand extremely well for needle-work."

CASE 14.—A youth, aged 18 years, was shown by Professor Schloffer[11] at the Association of German doctors in Prague. The patient was brought to the clinic on Oct. 19th, 1900, having shot himself with a revolver in the region of the heart. The bullet entered at the level of the fifth rib at the midsternum. No exit wound was found and no projectile could be felt under the skin. The patient was collapsed. On examination the heart dulness was found to be normal, the right radial pulse could not be felt, and the left was very weak, rate 100. The patient slowly improved in bed in the next four hours, the action of the heart becoming stronger. On the following day there was severe pain in the right arm and the right radial pulse could not be felt; the left pulse was good and fairly strong; the movement of the right elbow-joint was normal and the right hand and finger-joints were immoveable except for a slight amount of extension of the hand. The muscles of the right forearm were swollen, hard, and very tender on pressure. The skin of the forearm and hand was cyanotic. Passive movement of the fingers caused severe pain in the forearm. Sensation was intact in the upper arm, but was very much diminished below the elbow-joint, in the region of the median, ulnar, and musculo-spiral nerves. Professor Schloffer diagnosed ischæmic paralysis. On examining for the projectile in the depths of the right axilla, in the region of the axillary artery there was a hard sense of resistance which was thought to be the projectile, and this was confirmed by the Roentgen rays. This had produced closure of the axillary artery, probably from thrombosis, and had led to such an extraordinarily rare result as ischæmic paralysis. A little later there was dulness at the base of the right lung behind, with a temperature of 39·5° C.; both these signs finally disappeared. The local condition improved greatly under very energetic massage, so that the power of movement greatly returned; but at the time that the case was reported the right forearm was markedly atrophic when compared with the left side. The muscles felt hard and firm; in some places hard nodules could be felt. Dr. Margulie found the reaction of degeneration in the affected muscles. Sensation had, on the whole, become a little better, especially in the forearm, but in the hand it was still diminished to all three nerves, and in the fingers sensation was almost absent. The treatment adopted had been hot-air baths, but these caused severe blisters on the third and fourth fingers without the patient being aware of the fact. No effort was made to remove the bullet. Professor Friedel Pick, in the discussion which followed, remarked that this case was noteworthy owing to the change in sensation, for judging from the literature the rule in ischæmic paralysis was that motor paralysis lasted for a long time, but sensation was rapidly recovered.

CASE 15.—The patient, a boy, aged 12 years, was admitted to St. Thomas's Hospital under the care of Mr. W. H. Battle[12] on Dec. 2nd, 1895, and remained under treatment until Feb. 14th, 1896; since then he has been in the out-patient department till June of this year. The history of the case is as follows. The boy broke his forearm on May 21st, 1895. Six weeks after the fracture he could not put his fingers straight. The fracture had been treated by means of anterior and posterior splints which had produced a pressure sore in the middle of the forearm under the anterior splint. The left arm was wasted and the forearm was held pronated with the fingers flexed. When the wrist was flexed the fingers could be extended; this, however, could not take place with the wrist extended. There was marked wasting of the hand muscles. A scar was present over the front of the forearm, showing the site of the past pressure sore. Sensation was normal. The electrical reactions were normal. No lengthening of the flexors could be brought about under an anæsthetic. The muscles were very rigid. The treatment adopted was rubbing, galvanic current, and gymnastic exercise, and there was some improvement.

Definition.—A contraction of the fingers and sometimes of the wrist which comes on rapidly with loss of power which is not absolute in the forearm muscles after a severe injury, usually in the region of the elbow-joint, generally in young children. The deformity is due to changes in the flexor muscles without injury to the peripheral nerves caused in many cases by tight bandaging and the pressure of splints.

I next come to discuss the deformity from its different standpoints.

Etiology.—By the following tables (Tables I. and II.) which I have made of my own cases and of those of the literature the chief causative influences can be seen at a glance.

In Table II. pressure sore occurred in six out of a possible 11 cases. In one of the six cases there were three pressure sores; of the remaining five cases it did not occur in three, in one it is not stated whether it did or did not, and in the last case bullæ were present instead. In Table I., out of four cases pressure sore occurred in three and was absent in one. From this it is easy to see how common a factor it is. I do not think it causes the contracture, for it is generally limited to one part of the forearm, not over an extensive area, nor does it usually extend down deeply into the soft tissues; therefore it is hard to understand why it should cause such contraction of all the forearm muscles; but I do think it is a sign of great importance, as it does show to what pressure the parts have been subjected. There is usually a good deal of swelling, which has been treated by tight bandaging and splints; with such great resistance the skin is nearly bound to slough. The late Mr. Davies-Colley,[13] on the other hand, believed that "pressure sore" was a cause of the contracture, but it is obvious if it is in some cases that it cannot be in all. Splint pressure is claimed by many as the "cause." Mr. Littlewood[14] disagrees with this statement and his argument is backed up by the fact that it is clearly shown by looking at Table II. that there was no splint pressure in certainly *three* cases out of the 11, and possibly more. It is far more likely that it is a combination of large effusion into the soft parts and splint pressure, but that it does occur without any splint pressure I have already stated. Mr. Page thinks that the contracture is caused by a combination of pressure, fixation, and ischæmia. Other causes are Esmarch's bandage (Case 13 shows this fact very well and Volkmann[15] states: "I have never seen a case result from the use of Esmarch's bandage although it is known to be a cause"); when the main artery of a limb has been ruptured, ligatured, or contused; and lastly, the very interesting case (Case 14) published by Professor Schloffer, where it followed thrombosis of the axillary artery; long-continued and severe cold;[16] rupture and severe contusion of the flexor muscles in young children (this fact will be dealt with in the pathology); the suppuration of muscles; and finally, Mr. Anderson summarises the etiology thus: "It is a result of prolonged fixation of forearm fractures by any form of apparatus that intercepts the free circulation of blood through the muscles and nerves of the part."

Symptoms.—These come on rapidly, as Volkmann describes, "in half a day or less in very severe cases." The great feature in the history of a case of this deformity is the onset of paralysis of a limb with contracture; this is most important and characteristic. The fingers sometimes go blackish in colour and frequently swell. There is rarely any pain; the absence of this symptom may be the cause of the splints not being loosened more rapidly, but on removal of the splints the forearm is often tender and sometimes extremely so. There is often sloughing of the skin, usually in the middle or upper part of the flexor surface of the forearm. The fingers are at first simply flexed, but soon pass into the position so characteristic of this deformity, which has been so ably described by Mr. Littlewood. Once this position is seen it is not easily forgotten; it has been present in every well-marked case. With the wrist extended the metacarpo-phalangeal joints are extended also; the inter-phalangeal joints of the fingers and the terminal joint of the thumb are, however, strongly flexed, so that the tips of the fingers touch the lower part of the palm, and no reasonable amount of force seems capable of straightening them; but as soon as the wrist-joint is flexed to a right angle then the inter-phalangeal joints can be easily extended. In very bad cases the wrist becomes strongly flexed and is incapable of extension. The hand is pronated and the forearm is generally semi-flexed. The flexor muscles of the forearm seem hard, firm, and much wasted. A thickening is sometimes felt in the soft tissues, usually in relation to the pressure sore which is so frequently present. A swelling, bony in character, is sometimes to be found at the lower end of the humerus, generally at the inner side. Sensation may be normal, or there may be partial or complete anæsthesia; this is dependent on the condition of the peripheral nerves. There are thus to be seen usually three grades of this deformity: (1) partial contraction of the fingers; (2) the hand in the typical position; and (3) strong flexion of the wrist and fingers, without any power of extension. There are no true trophic lesions in pure ischæmic myositis, but the hands are frequently cold and blue and the skin smooth. The fingers frequently swell when the arm hangs down by the side for some time. It is said that the joints become ankylosed, similar to the ankylosis in traumatic arthritis, but I could find no such case in the literature or any mention of such a condition having been recorded; in those cases in which any reference was made to the joints they were always said to be normal. In well-marked cases there is as much shortening of the bones as is met with in acute anterior poliomyelitis, &c. How does this occur? Dr. Turney's explanation seems completely to explain such a result. He says: "The growth of bones proceeds only *pari passu* with the amount of support it has to give to its attached muscles."

Electrical reaction.—Dr. Turney tells me that he considers

TABLE I.—CASES PUBLISHED FOR THE FIRST TIME.

Cases.	Under the care of—	Nature of the accident.	Treatment adopted.	Remarks.
Case 1	Mr. Clutton and Dr. Turney.	Fracture of the right arm just above the elbow-joint.	Splints, anterior and posterior.	A good deal of swelling of the soft parts and pressure sore
Case 2	Mr. Pitts and Dr. Turney.	Some injury, cause uncertain.	Anterior splint to the forearm for five weeks; plaster-of-Paris for two months.	Well-marked swelling of the soft parts. No pressure sore.
Case 3	Mr. Pitts and Dr. Turney.	Greenstick fracture of the right radius and ulna at the junction of the middle and upper thirds.	Anterior and posterior splints.	Pressure sore on flexion on the surface of the forearm.
Case 4	Mr. Clutton and Dr. Turney.	Fracture of the lower end of the right humerus.	Plaster splints.	Well-marked swelling of the soft parts; pressure sore.

TABLE II.—CASES FROM THE LITERATURE OF THE SUBJECT.

Cases.	Under the care of—	Nature of the accident.	Treatment adopted.	Remarks.
Case 5	Mr. Raymond Johnson.	Fracture of the lower end of the humerus.	Wooden splints.	No statement as to whether any swelling was present; pressure sore on the front part of the forearm.
Case 6	Mr. Davies-Colley.	Severe fracture of bones "about the elbow-joint."	Not stated.	Considerable swelling of the soft parts and a pressure sore.
Case 7	Mr. Jackson Clarke.	Fracture of the lower end of the humerus.	Splints.	Much swelling of the elbow-joint.
Case 8	Mr. Page.	Transverse fracture of the lower end of the humerus; separation of the lower epiphysis.	Anterior and posterior splints to the forearm (limb put up in flexed position).	Pressure sore; presence of swelling of the soft parts, but stated.
Case 9	Mr. Littlewood.	Fracture separation of the lower end of the humerus.	Internal rectangular splint.	Marked swelling of the tissues; no pressure sore.
Case 10	Mr. Littlewood.	Severe fracture of the lower end of the humerus, radius, and ulna.	Splint (kind of splint used not stated).	Considerable swelling of the soft parts; pressure sore.
Case 11	Mr. Barnard	Fracture of the radius and ulna (about the middle of the shaft).	Anterior and posterior splints.	Large pressure sore on the forearm and two others of smaller size; presence of swelling not stated.
Case 12	Mr. Barnard	Severe contusion of the upper part of the forearm; fracture excluded by the x rays.	External angular splint and very light bandaging.	Great swelling of the soft parts with bloody effusion; no pressure sore.
Case 13	Mr. F. C. Wallis.	Esmarch's bandage to the upper arm for one and a quarter hours.	—	Much swelling and redness and the arm covered with bullæ.
Case 14	Professor Schloffer.	Thrombosis of the right axillary artery.	—	The skin of the right forearm and hand swollen and slightly cyanotic; the muscles very tender.
Case 15	Mr. Battle.	Fracture of the forearm.	Anterior and posterior splints.	Pressure sore.
Case 16*	Mr. Davies-Colley.	Compound fracture of the tibia and fibula; calf muscles injured.	—	Prolonged suppuration.
Case 17*	Mr. Edmund Owen.	Fracture of the upper part of the forearm.	—	—

* No details of these cases are given in the present paper.

the normal electrical reactions of both muscles and nerves to be the most diagnostic feature of this deformity. It was present in all my cases, and in one case in Table II. the reactions were taken by Dr. Turney and also by myself. There is no mention of the electrical reactions in the different books on medical electricity except by Dr. Hedley who says: "It is stated that the electrical reactions are not altered." On the other hand, when one refers to the recorded cases composing Table II. the exact opposite is found in four of those that were examined; out of the 11 recorded these showed reaction of degeneration, in the fifth case the reaction was normal. Dr. Harris, who examined Mr. Page's case, says: "Any ischæmic condition would, I imagine, damage the nerve end-plates as well as the muscles, and one might expect, I should think, some reaction of degeneration." He also mentions the fact that in acute myositis there are no electrical changes until in the late stages, when atrophy, if any, sets in. Dr. Hedley, who examined the muscles of the forearm in Case 12, reported that he obtained reaction of degeneration. Professor Erb states that in a primary muscular condition the electrical reactions are normal. It is possible, however, that he had not examined cases of ischæmic myositis. There are several points against the presence of the reaction of degeneration. 1. One cannot be certain that the nerves were unaffected in those cases in which reaction of degeneration was obtained. 2. If reaction of degeneration was present then we conclude that those muscles are practically paralysed for the time being, and whether this is due to the main nerve trunks being affected or to the motor end-plates makes no difference from a diagnostic point of view. Now, how is it that when the paralysed muscles had their tendons lengthened they could perform the movements of normal muscles, as they did in Mr. Page's case, and also seem to have done in Mr. Barnard's case? This is surely peculiar for paralysed muscles to act normally because their tendons are lengthened. It may be that the muscle recovered from the reaction of degeneration, but no absolute statement to that effect is made, and if the nerve end-plates are damaged by the changes in the muscles, as Dr. Harris suggests, it seems quite unlikely that much improvement will ever take place when one considers the fibrous tissue which has taken the place of the muscle fibres. The peripheral nerves are no doubt affected in some of the cases, as in two cases in Table II. the nerves—i.e., ulnar and median—where cut down on and examined were found to be surrounded by fibrous tissue which was adherent to the nerve sheath, and in one case the nerves were rather swollen. In Case 14, although it is not stated, it seems to me that the ulnar and median nerves were seriously injured. A point of particular importance is that the muscular branch of the nerve may be injured in some cases and may cause the reaction of degeneration, while, of course, it is quite possible that these might recover and, in fact, are far more likely to do so than the motor end-plates, which to my mind, for reasons already stated, if they are once injured, must be so for ever. Lastly, what do we know at the present day of the motor end-plates, more especially their relation to electrical reaction?

Pathology.—I will simply state here the opinion of the

different observers and commence by giving that of the eminent German surgeon who first described the disease. Volkmann considers that the paralysis and contracture are dependent on the diminution of arterial blood to the muscles—i.e., are ischæmic in origin—(see Case 14) whilst the simultaneous venous congestion which often takes place hastens the onset of the paralysis; the muscle fibres, being deprived of their oxygen for some time, perish; and the contractile substance coagulates, breaks up, and disappears—that is to say, *rigor mortis*. The rigidity and contracture of the limbs are made worse by the material contracting, which was present for the process of repair. The degree of paralysis and contracture depend on the length of time the circulation of the blood has been arrested. If the anæmia has been very marked the most serious results may happen in 12 hours or less. A slight but prolonged constriction and pressure of a limb may cause symptoms of great severity, especially in fractures of the radius. The late Mr. Davies-Colley[17] believed that this deformity is due to splint pressure on the skin causing inflammation which spreads to the muscles; or suppuration of all the soft parts may be got, the resulting fibrous tissue which contracts and gives rise to the deformity being formed from the granulation tissue of the soft parts. Mr. Raymond Johnson[18] considers that the "paralysis" is dependent upon inflammation and subsequent fibrous degeneration of the muscles caused by the application of splints sufficiently tightly to interfere seriously with the circulation through the part. Mr. Wallis[19] describes how this deformity of muscle is produced by Esmarch's bandage: "There is after removal of the bandage excessive capillary hæmorrhage; it occurs not only in the skin but also in the muscles. There is no actual blood extravasated, but a large quantity of serum, and with it fibrous tissue-forming elements which escape into and around the tissues. Thus the muscular fibres all become infiltrated with fibro-blastic elements, and eventually the healthy contractile muscle becomes largely mixed with fibrous tissue, and according to the amount of this tissue so contraction occurs. Ziegler[20] describes a form of myositis due to the extension of inflammation from the skin or elsewhere manifested by infiltration of the perimysium with liquid and accumulation of round cells into the connective tissue. The muscle fibres often remain intact throughout; when they also suffer cloudy swelling, fatty degeneration, and coagulation necrosis make their appearance. The deformity has been likened by some writers to congenital hæmatoma of the sterno-mastoid producing wry-neck. Mr. Clutton[21] says: "Violence is the main cause of tumour of the sterno-mastoid." Dr. Spencer, quoted by Mr. D'Arcy Power,[22] proves beyond doubt that the cause of the condition is injury resulting in rupture of the fibres of the sterno-mastoid, with effusion of blood into the connective tissue. In other cases there is no doubt that inflammation alone may cause the tumour of the muscle. But while, on the one hand, contracture is the rule in ischæmic myositis, it is far less common in congenital hæmatoma of the sterno-mastoid. Mr. D'Arcy Power gives 30 cases, traced by Mr. Clutton, himself, and others, of congenital hæmatoma, of which 11 eventually had wry-neck, but in two of these the deformity was very slight; it will thus be seen that there is a great difference between the injury and its result in the two deformities in question. Kraske[23] has shown that long-continued and severe cold may produce this deformity. Lastly, it seems to me that possibly, as so many of these cases commence as injuries in the region of the elbow-joint, the synovial membrane might be lacerated and the escape of the contained fluid with possibly some blood around the seat of the injury might help, or even entirely produce, this deformity in some cases. While discussing the pathology of this deformity I will add the condition of the muscles when examined by surgeons at operations. There are five reports in all, and every observer agrees that the muscles are wasted, pale, firm, and dry, and that they seem to be chiefly composed of fibrous tissue.

Diagnosis.—The diagnosis is usually easy, but still there are difficulties at times, chiefly in finding out whether the case is purely ischæmic myositis or whether it is this disease together with injuries of the peripheral nerves. In looking through the literature of the subject I find a large number of deformities which have entered into the diagnosis at some time or other. I think it therefore advisable to mention these and their diagnostic features. A case of Volkmann's contracture gives the history of a severe injury usually in the region of the elbow-joint or forearm accompanied by a large amount of swelling of the soft parts. The patient is usually a child (every patient in Table I. and in Table II. was under the age of 10 years, except in three instances, and two of these could hardly be included, as in one it was due to Esmarch's bandage and in the other to thrombosis of the axillary artery, and therefore they did not present the usual history). Splints have generally been applied and the contracture of the fingers has come on rapidly. This point, Volkmann[24] lays great stress on and says: "The paralysis and contracture arise simultaneously, not as in paralysis of nervous origin, where contraction is a later phenomenon and of gradual onset." A child presenting such a history as this and with the deformity of the hand as described in the paragraph on the symptoms, as well as with normal electrical reactions, is diagnostic of Volkmann's contracture.

We must now consider what other conditions produce such a deformity. I find that the following is a list of nerve lesions which are given as offering points of diagnosis: (1) ulnar, median, or muscular spiral paralysis; (2) the contraction after acute anterior poliomyelitis; (3) Little's disease; and (4) functional disease. The peripheral nerve palsies are alone worth considering fully; in the others the diagnosis is so obvious that a brief account is sufficient.

1. In ulnar paralysis the paralysis generally comes on rapidly after wounds of the arm. The fingers cannot be flexed at the first joint or extended at the other joints. Adduction of the thumb is lost and so are most movements of the little finger. Anæsthesia occurs in most cases, corresponding with the inner side of the hand, the little finger, and the inner half of the ring finger. The reaction of degeneration in the wasted ulnar muscles is present, but no reaction to stimulation of the ulnar nerve with the faradic current. After a long period the "claw hand" is developed. There will be no contraction of the wrist. The hypothenar eminence may disappear. The palm is hollow and trophic changes may be present. Therefore the points of diagnosis are many and should not offer much difficulty. In median nerve palsy there is paralysis of pronation beyond the mid-position; the thumb is extended and adducted. The fingers are not contracted. There is little power to flex the wrist. Electrical reactions show reaction of degeneration in the affected muscles. Anæsthesia corresponding to the radial side of the palm, the front of the thumb, the first two fingers and half the third, and in some cases the back of the last phalanx of the index and middle finger. Trophic lesions may be present. In this palsy it is quite obvious that there is little resemblance to Volkmann's contracture. In musculo-spiral palsy, although there is dropping of the wrist, it is due to paralysis of the extensor muscles, not due to contraction of the flexors, as in Volkmann's contracture. The fingers are frequently in the position pointed out by Sir William Gowers, the first finger being least and the fourth most affected, thus showing a simple gradation. A very large number of the musculo-spiral palsies which come to the electrical department at St. Thomas's Hospital show this feature. The palsy may be bilateral, as it is usually in lead. The involvement of the triceps and supinator longus in some cases, with the well-marked reaction of degeneration in the affected muscles and the loss of sensation which sometimes occurs, is sufficiently characteristic for a correct diagnosis. Although these points are sufficient for diagnosis between the deformity in question and peripheral nerve palsy, yet it is highly probable that the nerves are also affected in some of the cases of Volkmann's contracture. For instance, we see in some of the cases reported loss of sensation corresponding to definite nerve areas, while in others there have been trophic ulcers. The reaction of degeneration in the affected muscles in four cases out of five in which it was examined for in Table II. is very important, while in Table I. in no case was it present. I think therefore that the electrical reactions show quite clearly that there is, on the one hand, pure ischæmic myositis, with normal reaction; and, on the other hand, ischæmic myositis plus peripheral nerve palsy, producing complete or partial reaction of degeneration.

2. The contracture after the acute anterior poliomyelitis. If any history can be obtained of the onset of the case in question it will be practically sufficient for a correct diagnosis, although acute anterior poliomyelitis may follow directly after an accident, such as a fall, but the injury in no way resembles that met with in Volkmann's contracture. Also the far greater frequency of the involvement of the upper extremity (I can find only one case of Volkmann's deformity in the leg), and the reaction of degeneration in the affected muscles. Perhaps the most diagnostic point is

the much longer time which contracture takes to develop in this disease.

3. Little's disease which is also known as "congenital spastic paraplegia." The involvement of the lower extremities and the etiology of the two diseases are sufficient for a diagnosis, which must be obvious to anyone.

4. Functional disease. I saw one case of Volkmann's contracture diagnosed as "functional." No doubt the mistake arose as it generally does: if we see any disease which we cannot diagnose the temptation is to call it functional. The absence of any serious injury, the greater age of the patient, while the hand will possibly be contracted as well as the fingers atypically form the points of diagnosis. The complete reduction of the contracture under an anæsthetic will be proof positive of functional disease. The electrical reactions in each case will be normal. There are a few other cases which are certainly worth recording here. (1) In the case of a patient under the care of the late Mr. William Anderson[25] who was bitten in the forearm by an adder the injury was followed by pain and swelling accompanied by a painful contraction of the fingers which lasted nearly three months; it was ultimately relieved by massage and active and passive movements. In giving the pathology of this condition Mr. Anderson remarks that it was "due to diffuse inflammation of the inter-muscular planes and perimysial connective tissue; that it may occur as a result of poisoned wounds and other injuries, sometimes leading to a deformity in the fingers, as is met with in ischæmic paralysis." (2) König (quoted by Anderson) describes a case of flexion of the hand and fingers in a newly-born child caused by a tearing of the flexor muscles at the moment of disengagement of the arms in the course of delivery. Lastly, Dr. Turney tells me of a case which he saw in consultation where there was no contraction of the hand and fingers but great wasting of the muscles of the forearm. At first sight, when he saw the case, he thought that it was due to nerve injury, but he found the electrical reaction quite normal and the flexor muscle of the forearm firm and hard. Two scars showing past pressure sores were also present. The reason of the absence of deformity was due to the fact that the patient had always worn a splint reaching to the tip of the fingers.

Prognosis.—Volkmann makes this statement: "The prognosis is bad, especially in cases where the hand and fingers are affected; here it is practically hopeless. It is better in the lower limbs, for here tenotomy may be practised; slighter cases may be improved with massage." In 1891, or about 10 years after Volkmann's paper, Mr. Anderson gave a prognosis absolutely contradictory to Volkmann. He says: "The lesion—i.e., ischæmic myositis—is seldom of a permanent character and the function may generally be restored by systematic active and passive movements with massage and, if necessary, the galvanic current." He gives no cases to substantiate his statement and there is certainly nothing in the literature that I can find so completely to oppose Volkmann's gloomy prognosis. When, however, one refers to the cases which I have published it will be seen that the prognosis given by Mr. Anderson is exactly in accordance with these results. I think that I am right in stating that the patients in Table I., when they left St. Thomas's Hospital with complete deformity of the hand and forearm, were not expected in two or three years to obtain a normal arm, but such is the case. When I received letters replying to my question from two different patients stating that they had completely recovered I could not understand it, but it was quite obvious when I saw the cases. Surgical methods of lengthening tendons, shortening bones, &c., cannot produce with the very best results possible a better condition of affairs than I now publish. Of course, one cannot be absolutely certain that so happy a result would always ensue, but still these are not selected cases, but those which Dr. Turney had seen in the hospital and which had been diagnosed by him as ischæmic myositis. I cannot say whether the fact of having normal electrical reaction—as all the cases I reported had and have—may be such an advantage as to give recovery by simple massage, &c.

Treatment.—In his Hunterian Lecture of 1891 the late Mr. William Anderson stated that "ischæmic paralysis is a reproach to surgery, since a careful observation of the hand and fingers during the use of splints will always give due warning of the danger." The only objection to this statement is when the deformity arises from other causes than bad treatment, as it undoubtedly may do, Mr. Littlewood holds the view that splint pressure has nothing to do with the production of the deformity. This statement is going to the other extreme and is certainly incorrect in many cases. There is no better illustration than Case 4 of my series, where there was a severe injury with a large amount of swelling. "Plaster splints" were applied to the forearm; this was followed in 24 hours by swelling and duskiness of the fingers, paralysis, and contracture, with a pressure sore besides. This is one example out of many. Therefore in a severe injury to the bones of the forearm and lower end of the humerus it seems obvious that anterior and posterior splints should not be applied, or at any rate not in these cases when there is much swelling, and several surgeons, notably Mr. Page, disagree with the use of splints. When the contracture has occurred and is of recent origin Volkmann recommends the extension of the muscles under an anæsthetic. This treatment alone has proved to be valueless, and the extension of the muscles is no easy matter; the contracture still continues till it reaches a maximum even under extension. There seem to be two methods of treatment, medical and surgical. The former consists of massage to the forearm twice daily for 10 minutes or more (as long as there is no pain) and passive movements of the fingers. The galvanic current can be given, but I do not think it would make any difference. This treatment must, no doubt, be carried on without any long interim for about two years to have the complete results here shown, as it took quite that time in both my cases to effect complete cure. The results of this treatment have already been discussed and show what great value it has. Massage in each case was performed by the friends and has given as good a result as any professional expert could possibly obtain, and with this advantage for hospital patients especially—it was performed free of charge.

As to surgical treatment and the time of operation, as many of the cases slowly continue to contract for some time after the accident it seems possible that it would be better to delay operation for three or four months. The different operations which have been performed are numerous. Mr. Davies-Colley cut through the flexor muscles of the forearm themselves, and at a second operation, a month after, cut through all the flexor tendons. The deformity is certainly cured by such treatment, but no hope of flexion of the fingers can ever be entertained. Mr. Raymond Johnson excised a short piece of bone from the middle of the shaft of the radius and ulna. The effect on the contracted wrist and fingers was satisfactory, but the divided bones only united by fibrous tissue and the child had to wear a leather splint. This case was shown at a meeting of the Harveian Society of London on March 3rd, 1898. Mr. Edmund Owen who discussed the treatment of such cases advised resection of bone, but stated that surgeons must be prepared for the result of non-union of the divided bone, but he gave no proof for such a statement. Tendon lengthening, first advised in these cases by Mr. Page,[26] has since been carried out by Mr. Littlewood,[27] Mr. Barnard,[28] and others. It simply consists in splitting longitudinally the flexor tendons of the fingers or cutting them in a Z-shaped fashion, then when full extension has been applied suturing the lengthened ends. The after-treatment consists of keeping the hand and fingers on a splint for about a fortnight, then gradually applying massage, the galvanic current, and finally by active and passive movements of the fingers, hand, and forearm. Lastly, in cases where the presence of a lump situated at the lower end of the humerus after an injury to the bone interferes with flexion and extension of the forearm this bony mass can be excised. This was done in Case 2 by the late Mr. Pollock with excellent results.

In conclusion, my best thanks are due to Dr. Turney for allowing me to use the cases which have been, or are at present, under his care in the electrical department at St. Thomas's Hospital, and also for much valuable advice in the study of this interesting deformity. I have also to thank Mr. Clutton and Mr. Pitts, as the cases which I report had originally been under their care.

St. Thomas's Hospital.

[1] Krankheiten der Bewegungsorgane, 1875, p. 846. [2] A case brought forward by Mr. Raymond Johnson at a meeting of the Harveian Society of London on March 3rd, 1898, and reported in THE LANCET of March 12th, 1898, p. 722. [3] Guy's Hospital Gazette, Oct. 5th, 1898. [4] Orthopædic Surgery, 1899, p. 49. [5] THE LANCET, Jan. 13th, 1900, p. 85. [6] THE LANCET, Feb. 3rd, 1900, p. 291. [7] Ibid. [8] THE LANCET, April 20th, 1901, p. 1138. [9] Ibid. [10] The Practitioner, October, 1901, p. 429. [11] Wiener Klinische Wochenschrift, No. 1, 1901, p. 25. [12] St. Thomas's Hospital Records, 1898; also Transactions of the Clinical Society of London, vol. xxix., p. 241. [13] Loc. cit. [14] THE LANCET, Feb. 3rd, 1900, p. 291. [15] Loc. cit.

[16] Kraske: Centralblatt für Chirurgie, 1879, No. 12. [17] Loc. cit. [18] Loc. cit. [19] Loc. cit. [20] Ziegler, p. 306, set 1-8. [21] St. Thomas's Hospital Reports, 1888. [22] Wry-neck and Congenital Hæmatoma of the Sterno-mastoid, Transactions of the Royal Medical and Chirurgical Society, vol. lxxvi., 1894. [23] Loc. cit. [24] Centralblatt für Chirurgie, 1881, vol. viii., No. 51. [25] The Deformities of the Fingers and Toes, p. 66. [26] THE LANCET, Jan. 13th, 1900, p. 83. [27] THE LANCET, Feb. 3rd, 1900, p. 291. [28] THE LANCET, April 20th, 1901, p. 1138.

SOME FIGURES AS REGARDS SUSCEPTIBILITY TO REVACCINATION.

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WITHIN the past three months it has fallen to my lot to revaccinate a large number of the female staff of St. Bartholomew's Hospital, including sisters, nurses, wardmaids, and servants. In all, I inoculated 171 persons, of whom 163 were vaccinated with lymph from the same source and, I believe, of very uniform potency. I kept a note of the results and have reduced the figures to tabular form. I am induced to record them for several reasons. Statistics concerning vaccination deal chiefly with the incidence of small-pox upon vaccinated persons; very few figures are available to show the percentage of persons susceptible to revaccination in young adult life. Although the number of cases here recorded is comparatively small, yet the figures may be of use to someone collecting statistics on a larger scale and their publication may induce others to record their own results. The figures are quite in accordance with what might have been anticipated, but this seems no reason for refraining from publishing them. On the contrary, the lesson they teach is one which at the present moment is most urgently needed to emphasise the importance of re-vaccination.

The method of vaccination employed was uniform in every case. No antiseptic was employed at all. The arm was scrubbed well with warm water and soap and was then dried with a pad of clean absorbent wool. It was then scarified lightly with a scalpel in four places, each area treated being about one centimetre in diameter. The lymph was immediately expelled from the tube upon the scarified areas, well rubbed in with a sterilised glass rod, and allowed to dry. No secondary infection or other untoward result occurred in any case. The lymph used was that supplied by the Association for the Supply of Pure Vaccine Lymph, 12, Pall Mall East, London, W. It was a glycerinated lymph almost free from extraneous micro-organisms. Before I began to use it I tested a tube by bacteriological culture and found that very few colonies of bacteria grew. The different consignments of this lymph appeared uniformly active.

Of the 171 persons inoculated two were previously unvaccinated, leaving 169 cases of revaccination. Of these I exclude eight cases in which an inert lymph was used inadvertently, thus confining the figures to the cases in which one uniform and good lymph was employed. In three cases I was unable to ascertain the results, owing to the persons who were vaccinated leaving the hospital within a few days after the operation. The following figures relate to the 158 cases in which I can vouch for the results. I classify the results under three headings: (1) perfect vaccinia—i.e., large well-formed vesicles resembling those of primary vaccinia in all respects save that the process was often accelerated by a day or two; (2) imperfect vaccinia—i.e., the production of vesicles small, imperfect, and generally much accelerated; and (3) negative result—i.e., transitory redness without the formation of any vesicles at all.

The gross results of the 158 cases work out as follows: perfect vaccinia, 72 cases, or 45·57 per cent.; imperfect vaccinia, 65 cases, or 41·14 per cent.; and with a negative result, 21 cases, or 13·29 per cent.

If the cases are grouped the results are more striking. 55 of them were wardmaids and domestic servants employed about the hospital—young adults who for the most part had not been vaccinated since infancy. 88 were nurses who are obliged to be revaccinated before entering upon their hospital training. A few had managed to evade this regulation, while in some the revaccination had been unsuccessful, but the great majority of this class were already successfully re-vaccinated persons, some having been vaccinated several times. 15 of the cases were ward sisters or very senior nurses in whom the effects of the revaccination must to some extent have worn off.

Amongst the 55 cases of the servant class the results were as follows: perfect vaccinia, 42 cases, or 76·36 per cent.; imperfect vaccinia, 11 cases, or 20 per cent.; and with a negative result, 2 cases, or 3·64 per cent. Very different were the results amongst the 88 nurses. They were as follows: perfect vaccinia, 24 cases, or 27·27 per cent.; imperfect vaccinia, 48 cases, or 54·54 per cent.; and with a negative result, 16 cases, or 18·18 per cent. The sisters and senior nurses occupied an intermediate position. They showed: perfect vaccinia, 6 cases, or 40 per cent.; imperfect vaccinia, 6 cases, or 40 per cent.; and with a negative result, 3 cases, or 20 per cent.

The full value of the results is, however, seen when the date of the previous successful vaccination is taken into account. 61 of the cases were persons successfully vaccinated in infancy and not successfully vaccinated since. Of these 61 four were under 20 years of age, seven were aged over 30 years, and 50 were between 20 and 30 years old. The average age of the 61 persons was 23·6 years. The results were as follows: perfect vaccinia, 50 cases, or 81·96 per cent.; fair vesicles, eight cases, or 13·11 per cent.; feeble vesicles, one case, or 1·66 per cent.; and with a negative result, two cases, or 3·32 per cent.

In 41 of the remaining cases I was able to ascertain the date of the last asserted successful revaccination. In one case three years had elapsed and very feeble vesicles resulted. In four cases four years had elapsed; two yielded a negative result and two very feeble vesicles. In 11 cases five years had elapsed; five yielded negative results, four very feeble vesicles, two fair vesicles, but none typical vaccinia. In six cases six years had elapsed; two yielded negative results, one feeble vesicles, and three typical vaccinia. In one case seven years had elapsed; typical vaccinia was produced. In seven cases eight years had elapsed; three yielded negative results, two imperfect vaccinia, and two perfect vaccinia. In three cases nine years had elapsed; all yielded imperfect vaccinia. In four cases 10 years had elapsed, and all yielded imperfect vaccinia, but in two the vesicles were fair. In two cases 12 years had elapsed; both yielded imperfect vaccinia, but one with fair vesicles. In one case 16 years and in another 18 years had elapsed; the one yielded fair vesicles and the other perfect vaccinia. I may add that except for special reasons, such as known exposure to small-pox infection, I did not attempt to vaccinate any person who had been successfully revaccinated within five years.

As I have said, there is nothing in the above figures that might not confidently have been predicted. We are all aware that the immunity against small-pox which vaccination confers is by no means permanent. It is only the anti-vaccinationists who point with glee to the fact that in a given epidemic more vaccinated than unvaccinated persons are commonly attacked, heedless of the interval which has elapsed since vaccination, and seemingly impervious to the conclusion that this is not an argument against vaccination, but the strongest possible argument for efficient revaccination. It is, of course, an open question how far susceptibility to revaccination implies susceptibility to small-pox. Although it is possible that a person who takes fairly well when revaccinated might yet fail to take small-pox when exposed to infection, or take it very mildly, it is nevertheless true that revaccination is the only practical test at our command for determining susceptibility to small-pox, and that immunity against vaccinia is fair proof of immunity against small-pox. One is constantly asked when small-pox is prevalent, "Ought I to be revaccinated?" The only answer is, "Be revaccinated and see. If you do not need it, it will not take, and you will suffer no inconvenience; if you need it, you will be well compensated for your inconvenience."

Of the figures which I have put forward above, those which appear to me to be of most importance are the ones dealing with persons never successfully revaccinated. They indicate that during the third decade of life some 80 per cent. of those vaccinated in infancy are most imperfectly protected against small-pox, and I imagine that it is this class which renders the number of attacks during an epidemic larger in the vaccinated than in the unvaccinated whatever the relative proportion of fatal cases may be. The figures which concern those already successfully revaccinated are of less importance. Individual susceptibility here plays an important part which can only be ascertained by actual

experiment. There are certainly those who are so susceptible as to require revaccination after six or seven years. It is much to be desired that those who have the cause of vaccination at heart should record statistics of this kind, as there appears to me to be a dearth of accurate information on this important subject. This is my only excuse for recording the facts above.

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A HISTORY OF THE AFTER-PROGRESS OF FIVE CASES OF PARTIAL GASTRECTOMY FOR CANCER OF THE PYLORUS.[1]

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CASE 1.—The patient was a woman, aged 40 years. For five months previously to the operation she had pain after food and for two months she had vomiting. On her admission into the Newcastle Royal Infirmary she was confined to bed from weakness and was much emaciated. A freely moveable tumour of the size of a Tangerine orange was found under the umbilicus. Pylorectomy was performed on Oct. 21st, 1897.

From the time the patient left the hospital she was perfectly well until May, 1900. She was able to eat and to digest any ordinary food and worked regularly at her household duties. On Nov. 13th, 1897, she weighed six stones eight pounds and on Dec. 31st, seven stones nine pounds; on Feb. 11th, 1898, seven stones 13½ pounds; on Dec. 9th, 1898, eight stones three pounds; and on March 3rd, 1899, seven stones 13½ pounds. In May, 1900, the patient began to have uneasy sensations after food, with rumbling and water-brash, and she discovered a lump in her epigastrium. These symptoms gradually got worse until she was unable to take any solid food. She was readmitted into the infirmary on July 18th. Previously to this she had vomited three times. Her general condition was good. Under the abdominal scar there was a definite hard, nodular, and tender tumour about three inches across and two inches from above downwards. It was adherent to the anterior abdominal wall, but moved slightly with respiration. The stomach was dilated. There were no signs of dissemination. On the 24th her abdomen was opened. The scar was adherent to the stomach; there was a large tumour extending from the pyloric end of the stomach along the lesser curvature nearly to the œsophagus and along the greater curvature to within four inches of it. Near the duodenal end the growth was adherent to the liver, but did not appear to involve the latter. There were several enlarged glands in the lesser omentum. The abdomen was closed, nothing being done. The patient made a good recovery from this exploration. On August 7th her weight was reduced to six stones nine pounds. On Sept. 14th the patient was reported to be worse. She had frequent retching and was unable to take solid food. In October she was getting worse and was only kept comfortable by living upon liquid food and taking sedatives. In December, 1900, three years and two months after the first operation, she died at home. There was no necropsy.

CASE 2.—The patient was a male, aged 48 years. Two months before his admission into the Newcastle Royal Infirmary he felt a burning and discomfort after food, which gradually increased until he could take no solids. He had never vomited. He had become pale and weak, and had lost fully a stone in weight. Beneath the upper end of the left rectus abdominis muscle immediately below the costal margin a hard nodulated tumour could be felt, ascending and descending with respiration. On turning the patient on to his right side the tumour moved over for two inches. Pylorectomy was performed on Sept. 12th, 1898.

After the operation the patient rapidly improved and went to work in December. On August 7th, 1899, he reported himself. He looked in good health, and was able to eat and to digest ordinary food. He weighed 10 stones which was his normal weight. He was working regularly from 6 A.M. to 5 P.M. and earning 8s. a day. On Sept. 28th he was well; on Feb. 5th, 1900, he complained of not feeling so well as before, and had lost seven pounds since the previous September. There were no stomach symptoms, but there was a small nodule in the skin of the abdominal wall immediately to the right of the scar. There were no other signs of recurrence or dissemination. On August 29th he returned with a large mass in the epigastrium, firmly adherent to the parietes. He complained of pains shooting to the shoulder. There was no vomiting or other stomach symptom. From this time he steadily got worse and died on Nov. 3rd, 1900, two years and two months after the operation. Dr. J. Ingram of Wallsend, under whose care the patient had been, was fortunate and enthusiastic enough to obtain a necropsy. There was no sign of growth in the stomach itself. The suture line formed a firm fibrous ring which just admitted two fingers. The glands surrounding this orifice were enlarged and infiltrated with growth, but they were quite easily separated from the stomach. The liver was studded throughout with large masses of growth.

CASE 3.—The patient was a woman, aged 41 years. Fourteen months previously she had gastric pain, vomiting commenced 10 months before, and latterly she had been unable to retain any solid food. Her stomach was much dilated. In the neighbourhood of the pylorus a hard, freely moveable tumour of the size of a walnut was found. She was very thin, weak, and anæmic, and weighed six stones 11 pounds. Pylorectomy was performed on Sept. 19th, 1898.

After the operation the patient quickly improved, and on March 24th, 1899, she weighed eight stones. She was very well, and able to work and to maintain her family until May, when she began to have stomach symptoms—burning in the epigastrium, with retching and loss of appetite. On July 13th she came to the infirmary. She looked very ill. Her stomach symptoms had increased and there was a large hard mass in the epigastrium which appeared to be a malignant growth. On August 10th she was much worse; the mass was larger and she had severe diarrhœa. She died in December, 1899, one year and three months after the operation. There was no necropsy.

CASE 4.—The patient was a male, aged 38 years. Six weeks before admission he commenced to vomit and had done so every day since. He had become pale and anæmic and had lost 22 pounds in weight. A tumour of the size of a cocoanut, moving freely on respiration and on manipulation, was found in his epigastrium. During the few days of his stay in hospital previously to operation it was observed that the tumour was increasing in size. His weight was nine stones 11 pounds. Pylorectomy was performed on Oct. 18th, 1898.

On Sept. 15th, 1899, the patient returned to report himself. He appeared to be in perfect health and was able to take ordinary food, and had gained two stones six pounds in weight. In September, 1900, he wrote to say that he was perfectly well and had gained a further seven pounds. He sent his photograph and this made him look robust. In March, 1901, he was perfectly well and was able to eat anything. At this time he was working as a timekeeper for 12 days out of every fortnight. He had lost four pounds since September, 1900. At the latter end of this month he had a febrile attack, accompanied by much pain in the right side of the chest, said to be due to influenza and pleurisy. Convalescence from this illness was slow and incomplete, and he began to lose ground. By June he had lost another 16 pounds. On July 19th he returned to the infirmary. There were signs of a large local recurrence with deposits in the liver. He had lost other 12 pounds. On August 2nd he was readmitted into the infirmary; he was then extremely jaundiced, thin, and ill. The mass in the epigastrium had increased and the liver was much enlarged. There were a good deal of pain and frequent vomiting. On Sept. 19th, 1901, two years and 11 months after the operation, he died at home. There was no necropsy.

CASE 5.—The patient was a male, aged 41 years. He had been ill and vomited after food for five months; he had also vomited blood. He had lost three stones in weight since the commencement of his illness and was in a very feeble condition. His stomach was much dilated and he vomited sarcinous matter. A small tumour could occasionally be felt in the neighbourhood of the pylorus. He weighed six stones 10 pounds. Pylorectomy was performed on Feb. 9th, 1899.

[1] This note is written in response to an editorial request for the further history of these cases made in THE LANCET in which a report of them was published (vide THE LANCET, April 1st, 1899, pp. 901 and 911). The cases were exhibited at the Clinical Society of London on March 24th, 1899, and published in vol. xxxii. of the Society's Transactions.

On March 24th, 1899, he weighed seven stones 10½ pounds. He stated that he felt in good health, and that he could eat ordinary food. Shortly after this he became ill again with pain and vomiting. He gradually got worse and died at home, so far as we could learn, about six months after the operation. There was no necropsy.

Newcastle-on-Tyne.

NÆVUS VERRUCOSUS ASSOCIATED WITH CERTAIN ANOMALIES OF PIGMENT.

BY H. TAYLOR, M.A. CANTAB., M.A., M.D. DUB.

THE marked manner in which the lesions are rigorously limited to the right side of the patient, their distribution in the track of certain cutaneous nerves, the alternation of deeply pigmented papillomata with merely the presence of pigment in the skin, and finally the merging of this pigmented condition into decolourised patches, make, I venture to think, this case of nævus verrucosus worth recording.

The patient is a lad, some 19 years of age, well nourished and in good health, with no history of syphilis or tubercle, who displays on his right breast a fairly extensive nævus verrucosus. Over the right pectoral region there is a dense crop of pigmented, non-hairy warts extending into the axilla and, though somewhat thinning out, half-way down the inner aspect of the right arm. At about the level of the nipples the warts reach the median line of the body, but they gradually disappear and are replaced by a line of reddish-brown pigment which is continued down to the umbilicus where again a few growths appear. (See Fig. 1.)

FIG 1.

Crop of pigmented non-hairy warts.

From the umbilicus to the pubes another faint brown line can be traced, unaccompanied by any warts, but on the right side of the scrotum and penis some can be found and with them a few reddish scars, the site of previous ones which the patient states have "dropped off." Similar scars can be seen on the right side of the forehead, nose, and chin, the result of treatment with the actual cautery. Down the inner side of the right leg, from the groin to the inner malleolus, is another faint line of pigment which becomes more marked behind the ankle and is apparently merged into five or six oval-shaped, raised, colourless patches of a leathery consistence, placed along the inner edge of the right foot ("white moles" of Hutchinson?). (See Fig. 2.)

FIG. 2.

Nævus verrucosus associated with certain anomalies of pigment.

There are no skin lesions of any description on the left side of the patient; all are confined absolutely to the right. The patient asserts that he sweats more freely over the affected side and that the principal inconvenience which he labours under arises from this hyperidrosis, with—in a not too cleanly person—the inevitable decomposition of the sweat and the consequent chafing of contiguous parts. The condition is congenital and the various patches have grown only proportionately with the individual. There is no history of any of his relatives having been similarly affected.

The warty growths over the pectoral region are well illustrated in Plate 35 of Mracek's "Hand Atlas of Skin Diseases."

A NEW METHOD OF BREAKING DOWN RECENT ADHESIONS.

BY GEORGE W. ORD, L.R.C.P. LOND., M.R.C.S. ENG.

To break down adhesions *without an anæsthetic* in either hospital or private practice is, owing to various causes, often a matter of necessity. The passive motion which follows the breaking-down, always a painful proceeding, frequently takes the form of fine-drawn and repeated agony. In private cases the surgeon's individual reputation will suffer if a stiff joint should result, and passive movements, owing to the pain they cause, lead in too many cases to latent resentment, an apprehensive dread of the practitioner's visit, and sometimes to an absolute refusal to undergo the torture. Our policy is, therefore, to be sure and brief in our manipulations and to avoid making passive movement the prolonged tussle between practitioner and patient, or between masseur and patient, which has so far seemed to be inevitable.

The method which I am about to describe consists in fixing the part *above* the stiff joint, by means of the surgeon's left hand, to the bed or the table, as the case may be, and then quickly flexing or causing movement in the joint. Adhesions in the wrists, the shoulders, and the knees we, I contend, break down without first putting the patient into a proper

position. Take the case of a knee. While the operator is doing his utmost to flex the joint the patient is meanwhile striving his utmost, by travelling on his hands, to get away from him. The operator forcibly flexes a little and is satisfied to come again the next day, to repeat the painful process, and so on *ad odium*.

I feel quite certain that to try to break down recent adhesions of a shoulder- or wrist-joint with the patient sitting or standing is fundamentally wrong; a large amount of pain is caused with comparatively little result, for the reason that the patient is in the best possible position for resisting. Anyone who may try my method on the normal shoulder-, elbow-, and finger-joints will, I think, satisfy himself as to its practical utility and as to the limited capacity for resistance which it allows the patient. With regard to the knee-joint, owing to the great power possessed by the muscles to prevent flexion, the advantages of the method when tried on the undamaged joint will not be so manifest. Indeed, in such an attempt upon a boy of the age of 10 years who was prepared for what would happen it would be found that he could successfully resist a very large amount of force. This theoretical objection melts away in actual practice, the stiff knee of an adult after eight weeks of splints giving far less resistance than would that of a normal child. I now propose to describe the method as applied to the joints of the shoulder, the wrist, the finger, and the knee respectively.

The shoulder-joint (right).—For these manipulations the surgeon stands behind the patient's head. The patient lies flat on his back on a mattress and the surgeon's left hand being placed flat on the clavicle of the affected shoulder he pins the patient to the mattress or the table, preferably to the latter; the operator's free hand then grasping the elbow raises that joint quickly to a level with the shoulder-joint.

The wrist-joint.—The patient's forearm is placed on a table in the supine position. The surgeon's left hand pins down the forearm to the table whilst his right, grasping the patient's hand, quickly flexes it to a right angle.

The finger-joint.—This joint is treated in a similar way, the hand being placed on the table with its palmar surface upwards.

The knee-joint.—The patient lies *prone* on the bed. The surgeons left hand pins down the thigh, whilst his right, grasping the leg above the ankle, quickly flexes the knee.

The following case will serve as an illustration of the method of procedure.

A youth, aged 18 years, fairly well nourished, who was run over by the wheel of a cart, sustained a simple oblique fracture of the femur just above the condyles. The knee-joint was involved evidently and became greatly swollen, doubtless owing in great part to hæmorrhage. The temperature for the first three weeks ranged from 100° to 101° F. For certain reasons no effort was made to flex the knee until the end of the eighth week; it was then attempted with the patient lying on his back. The flexion caused by the passive movement on the first day was almost *nil* and I anticipated a limited movement only of the joint as a final result, but on the next day it occurred to me to turn him over to the *prone* position and pinning him down I brought his leg up to a right angle with the greatest ease, numerous adhesions evidently giving way in the process.

There always must be pain when adhesions are broken down, but I claim for this method that the pain is almost momentary; that a large amount of joint movement is obtained at once by means of far less force than usual; that the resistance of the patient, a hitherto almost unconsidered factor, is reduced to a minimum; and finally, that there is great shortening of the period of passive movements owing to the unusually large amount of mobility caused by the surgeon's initial effort. In the knee case detailed above I had prevented adhesions of the patella by moving it from side to side at each visit and it seemed to me when I flexed the knee that this little point was not unimportant.

Richmond.

STOCKPORT AND ITS HEALTH DEPARTMENT.—Dr. Meredith Young, medical officer of health of the county borough of Stockport, has been granted a special honorarium of £60 in consideration of the extra work thrown upon him by Parliamentary Bills for the extension of the borough boundaries and the promotion of a large water scheme. The other chief officials and their staffs have been treated in a similar generous manner by the town council.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

SUCCESSFUL REMOVAL FROM AN INFANT OF AN OCCIPITAL MENINGOCELE LARGER THAN THE CHILD'S HEAD.

BY J. LYNN THOMAS, C.B., F.R.C.S. ENG.,

SURGEON TO THE CARDIFF INFIRMARY; CONSULTING SURGEON TO THE HAMADRYAD HOSPITAL, TO PORTH HOSPITAL, AND TO CARDIFF PROVIDENT DISPENSARY.

THE following case is, I think, worthy of record, as it has to do with one of the largest meningoceles that I have met with—one of the largest, as far as I know, that has been successfully removed. I think that the method adopted in operating upon this particular case is one which diminishes shock considerably, on account of there being no interference with the intracranial pressure during the time of the operation, and also by not having any antiseptics absorbed into the patient's system. There cannot be any doubt, I think, that long preparation of the skin before operation with poisons such as carbolic acid or perchloride of mercury, which are absorbed so easily by the skin, adds very seriously to the shock of a dangerous operation. Dr. W. G. Williams administered the chloroform, whilst my friend and colleague Mr. Cornelius Griffiths assisted me at the operation.

The patient was a male infant, aged four months, and the notes taken of the condition were as follows: "Since birth the child has had a tumour at the back of his head which has been getting gradually larger. It is attached to the skull by a pedicle over the posterior fontanelle, and is of the shape of a very large fœtal head. It is translucent and fluctuating, has been tapped several times, and has a number of large veins visible upon its surface where the skin is thin. The child has never been able from birth to move his head on account of the enormous size of the meningocele. Measurements: diameter of pedicle, three inches; from skull to summit of tumour, five inches; across greatest diameter, seven inches; greatest circumference, 17¾ inches; and occipito-frontal circumference, 15 inches. The tumour is two and three-quarter inches bigger than the largest circumference of the head."

The operation was proceeded with on Sept. 24th, 1901. In order to avoid shock no antiseptics were applied to the field of operation. The necessary preparation of the skin was done

Shows the meningocele larger than the head.

immediately before operating. Skin flaps were dissected off the meningocele, leaving the numerous veins untouched. The blood-vessels were under-run and divided between a series of two Kocher forceps and were then reflected back towards the skin. A pair of strong occlusion forceps, six inches long, were then applied to the pedicle and gradually

closed whilst the meningocele was tapped. The pedicle was rendered watertight by means of a Gely's suture and two rows of continuous sutures. The skin flaps were brought together and collodion dressings were applied. The recovery was uneventful.

The child at the present time (Nov. 6th, 1901) can move his head about, seems to be much more intellectual than he was formerly, has put on flesh, and has greatly improved in general appearance. The bony boundaries of the opening in the occipital region are three and a half inches long by two and a half inches wide.

The illustration is from a photograph which was taken immediately before the operation was commenced, and it shows fairly well the size, shape, and characters of the meningocele.

Cardiff.

AN UNUSUAL COMPLICATION OF INFLUENZA.

By J. G. CARRUTHERS, M.R.C.P. EDIN.

ON Nov. 11th, 1901, a case of typical influenza came under my notice. The subject was a healthy man, 34 years of age, of good physique and good habits. The disease progressed in the usual manner until Dec. 1st, when a quantity of venous blood was passed per rectum, each evacuation consisting of quite a pint. This continued at three-hour intervals for 36 hours, when it ceased. Acetate of lead and opium were administered. The immediate effects of the hæmorrhage were recovered from, but the patient died on Dec. 10th from exhaustion resulting from influenza. At the time of the hæmorrhage the idea of a perchloride injection occurred to me, but in default of localising any lesion it also occurred to me that general peritonitis might be set up by an injection, so I preferred the opium and lead.

This is so unusual a complication that I shall be glad to hear of any explanation. My own idea is that it was due to a passive congestion of the inferior hæmorrhoidal veins; why or wherefore? Someone may explain.

Selhurst-road, S.E.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ROYAL ALBERT EDWARD INFIRMARY, WIGAN.

REMARKABLE CASES OF ACUTE POISONING BY DINITRO-BENZENE.

(Under the care of Mr. E. H. MONKS.)

THE poisonous symptoms of dinitro-benzene are very striking, and owing to the fact that it is at present extensively employed in the manufacture of several explosives it has produced a large number of cases of poisoning. Although at ordinary temperatures dinitro-benzene is not volatile, yet it will readily cause symptoms of poisoning if the temperature is at all raised. Huber[1] quotes a case of a student who prepared some of this substance, and although he was occupied with the work for only one and a half hours, yet his face became deep blue in colour. The urine is black in colour, and it has been shown by MacMunn[2] that this tint was due to a pigment belonging to the aromatic series. There seems to be in some people a well-marked idiosyncrasy to the poison, for all workmen are by no means equally affected. In the following cases of poisoning by this substance it is interesting to note that the person first affected was a small child. This is what might have been expected, as in these cases the poison was absorbed by the skin, and the smaller the body the greater area its skin has in proportion to the body-weight. It is thought[3] that one-tenth of a gramme per kilogramme of body-weight would prove fatal; if this be so the fatal dose for a human being would be about eight grains. In most cases recovery follows rapidly. For the notes of the cases we are indebted to Dr. H. Holmes, house surgeon.

On Nov. 21st, 1901, the members of a family, consisting of the husband, aged 40 years; the wife, aged 40 years; and five children, aged respectively nine, seven, four, two and a half years, and two months, were admitted into the Royal Albert Edward Infirmary, Wigan. They were sent in by the police under the suspicion of having been poisoned. A note accompanied them from Mr. J. E. Parker of Ince who had attended them before admission, in which the following account was given. The man, a collier by occupation, had been out of employment for some time, but had obtained work a few days previously. For the last three days the family had subsisted on only one meal a day; the last was partaken of at 9 P.M. on the previous evening and consisted of liver, bacon, and potatoes, with tea and bread-and-butter. Mr. Parker said that he was able to exclude ptomaine poisoning, but suspected that some irritant might have been introduced into the food.

On admission the mother was able to give the following account. She was awakened shortly before 3 A.M. by the child, aged four years, complaining of abdominal pain, followed by vomiting and diarrhœa. During the course of the next few hours the others were successively taken ill with headache, malaise, and pain in the stomach. This latter symptom was not observed in three of the cases. At 6 A.M. the father started to go to work, but had to return owing to being giddy and feeling generally ill. They were sent into hospital about 2 P.M. and all were found to be markedly cyanosed, with quickened and shallow respirations and fast and soft pulses. The symptoms as observed in the man were as follows. The face, particularly the ears and lips, was almost livid. The skin over the whole body was dusky and the extremities were nearly as dark as the face. His mental condition was peculiar, he being drowsy and lethargic but very irritable when disturbed. He appeared to be unable to comprehend what was said to him. His pulse was 120, of full volume but very compressible; the respirations were 26. The temperature was 99·4° F. The pupils were not dilated; ophthalmoscopic examination showed that the veins were very dark in hue and swollen. The urine was of a somewhat high colour and was free from albumin and sugar. The lividity appeared to increase during the first two hours after admission. The temperature remained raised during the night, the highest point registered being 100·4°. At 10 A.M. next morning it was normal and was afterwards subnormal till the date of his discharge. During the course of the night the man's mental condition cleared and in the morning he complained of intense headache, "as if his skull would burst," and of pain in the hepatic region. On examination no tenderness or enlargement of the liver was discovered. The lividity was now much less, and in the course of the following day it entirely disappeared. This patient had neither vomiting nor diarrhœa. The other cases all showed symptoms similar to the above, the woman being least affected. In her case intense headache was the only symptom in addition to the cyanosis. In all the cases there was a slight rise of temperature, with pulses ranging from 100 to 140, and accelerated respirations. Two of the children vomited.

The treatment was as follows. The stomach pump was used in the case of the father and the mother. There was but little in the stomach, and the fluid obtained gave no indication of the cause of the trouble. Stimulants, strychnine, and inhalations of oxygen were given. It was noticed that each administration of oxygen relieved the breathing, though it made no appreciable difference in the colour.

All of the dangerous symptoms had passed away before the end of 24 hours, though lividity lasted in most cases two or three days longer, at the end of which time pallor was the only noticeable symptom. The patients left the infirmary after six days all apparently in excellent health. From the first it was suspected that the trouble was due to dinitro-benzene or an allied poison, but the mother on being questioned emphatically denied that there had been roburite in

[1] Virchow's Archiv, 1891, vol. cxxvi., p. 240.
[2] Brit. Med. Jour., March 3rd, 1894, p. 463.
[3] A. Wynter Blyth: Poisons, their Effects and Detection. Third edition, p. 189.

the house. When the husband recovered his intelligence he stated that he had brought some of the powder from the pit and that his wife had used this to sprinkle the floor in order to kill cockroaches. This being mentioned to the wife was denied by her, and she suggested that her husband "must still be wandering." It was not until she was confronted by the police with a tin which still contained traces of powder that she admitted having mixed roburite with some insect destroyer and having sprinkled the beds therewith.

Remarks by Dr. R. PROSSER WHITE.—The above forms a typical clinical picture, with the exception of some of the more acute gastro-intestinal symptoms, of the conditions found in persons suffering from the absorption of small doses of dinitro-benzene. Dinitro-benzene is the active ingredient of many of the high explosives, roburite amongst the number. An interesting feature of these cases is the presence of the febrile movement, giving evidence, as it does, of active metabolism caused by ingestion of very small quantities of this poison. This metabolism appears to take place immediately in the blood tissue by the destruction of the blood corpuscles.

The Manchester correspondent of THE LANCET in the issue of Dec. 7th, 1901, p. 1613, unwittingly remarked that the poisonous effects were due to the roburite fumes. As a matter of fact, dinitro-benzene is not in the least volatile at the ordinary temperature of the body; but, on the other hand, this poison penetrates through the skin with remarkable facility.[4] The admixture of even a small quantity of roburite, which contains about 7 per cent. of pure dinitro-benzene, with a practically inert insect-powder such as is commonly used for killing fleas and bugs sprinkled over the bedclothes, and thus coming in contact with the skin, would be amply sufficient to produce the startling symptoms found both in this series of cases and in those occurring at Huyton. In this connexion it is interesting to note that the mother suffered less than the rest of the family. This is explained by the fact that she was out of bed during a considerable part of the night attending to the other members of the family as they were taken ill, thus being for a shorter time exposed to direct contact with the poison.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

The Experimental Production of the Osteo-arthritic Variety of Rheumatoid Arthritis.—On the Occurrence of Suprarenal "Rest" Tumours in the Pelvis.—Multiple Osteomata.—Specimen of Intestinal Obstruction from Gall-stones.—Congenital Malformation of the Heart.

A MEETING of this society was held on Jan. 7th, Mr. WATSON CHEYNE, the President, being in the chair.

Dr. F. J. POYNTON and Dr. ALEXANDER PAINE communicated a paper on the results of an Experimental Investigation with a Diplococcus isolated after death from the Knee-joint of a man, aged 67 years, who had suffered from Chronic Arthritis. The cause of death had been carbolic acid taken by misadventure while engaged in his employment. Several joints were found much damaged by the arthritis, and the changes were such as were usually associated with the rheumatoid arthritis of later life. Thus the fluid in the joint was almost clear and was scanty in amount; there was a small foreign body formed probably by the organisation of inflammatory exudation. The cartilages were eroded and the bones were eburnated. The synovial membrane was much thickened. A diplococcus was demonstrated in the unincubated and incubated synovial membrane and was isolated and grown on blood agar. Injected intravenously into two rabbits, arthritis resulted in both instances without either valvulitis or suppuration in the viscera. One rabbit was killed on the fifteenth day. No erosion of cartilage or alteration in the bones forming the joints was found. The other developed a monarthritis of the right knee, with wasting of the muscles of the thigh and leg. The animal was killed in the tenth week and the specimen was shown to the society. The exudation was scanty, clear, and sterile. The cartilages were ulcerated in some places and in others had lost their gloss. The articular surfaces of the bones were slightly flattened, in places ulcerated, and their edges much thickened and lipped. The muscular atrophy was quite definite. The joint capsule and periarticular tissues were but little thickened, but the crucial ligaments were opaque and swollen. A condition of osteo-arthritis had resulted from the intravenous inoculation of a diplococcus isolated from a case of rheumatoid arthritis. Dr. Poynton and Dr. Paine pointed out that other investigators had isolated micro-organisms from the exudations in rheumatoid arthritis; for example, Max Schüller, Bannatyne, Wohlmann and Blaxall, and Chauffard and Raymond had isolated bacilli, and von Dungern and Schneider a minute diplococcus. Dr. Poynton and Dr. Paine emphasised the fact that the monarthritis in their investigation had been the result of an intravenous inoculation and not of a direct injection into the joint and summarised their conclusions as follows: 1. A diplococcus was present in the synovial membrane of the knee-joint of a man, aged 67 years, several of whose joints showed the chronic destructive changes of one type of rheumatoid arthritis. 2. This diplococcus had been isolated and cultivated. 3. Intravenous inoculation into rabbits had upon two occasions produced arthritis without cardiac lesions. 4. The organism had been isolated from the joint exudations. 5. In one instance an osteo-arthritis had resulted which was non-suppurative. This form of arthritis Dr. Poynton and Dr. Paine had not observed hitherto in animals inoculated with the diplococcus of rheumatic fever. 6. They considered this diplococcus to be the cause of the arthritis both in the case from which it was isolated and in the rabbit. Cultures of the diplococcus and sections showing it *in situ* in unincubated and incubated fragments of the synovial membrane were demonstrated. The diplococcus rheumaticus was also demonstrated in the synovial membrane from a case of early rheumatic arthritis. Macroscopic specimens of the arthritic changes were also shown with pipettes containing the fluid removed from the affected parts.—Dr. A. E. GARROD thought that chronic rheumatoid arthritis resulted, not from one cause, but from several different causes, and instanced its occurrence in hæmophilia and in Charcot's disease. He thought that the condition resulted from chronic inflammation of the joint long continued. He doubted if all the cases which were clinically grouped as cases of rheumatoid arthritis could be pathologically proved to be identical.—Dr. J. DRYSDALE asked if the experiment recorded was an isolated one or whether other animals had been inoculated.—Mr. S. G. SHATTOCK thought that a detailed history of the patient's past illnesses was very essential, for he might have suffered from rheumatic fever. He asked whether the articular cartilage showed the fibrillation which was characteristic of a rheumatoid arthritic joint.—Mr. W. G. SPENCER suggested the possibility of a gonorrhœal infection and thought that the organism did not differ very widely from the gonococcus.

Dr. A. EASTWOOD read a paper on the Occurrence in the Pelvis of Malignant Tumours Originating from Suprarenal "Rests." After referring to the frequency of aberrant suprarenal tissue along the course of the spermatic and ovarian veins and in the broad ligament he called attention to a case under Dr. F. H. Champneys' care which he had examined of a large malignant tumour attached to the fundus uteri, but separated from it by a capsule, which he considered to possess the typical feature of a suprarenal malignant growth. He had been unable to find any case previously recorded which could be considered comparable with it both in situation and in microscopic features. He arrived at his diagnosis by first excluding, mainly on histological grounds, other gynæcological possibilities, such as rare forms of sarcoma, endothelioma, the tumours originating from Wolffian remains as described by Recklinghausen, the mixed congenital tumour of Wilms, and then observing that all the features of the present case were not only consistent with, but were highly typical of, a suprarenal tumour. He referred in particular to the capsule, the grouping of the cells suggestive of zona glomerulosa, the close relation of the cells to the blood-vessels, the presence of coagulated material resembling the colloid of the thyroid, and the epithelioid character of the cells which contained yellow oil globules and sometimes pigment. He further supported his view by showing, for comparison, two other cases of Suprarenal "Rest" Tumours Growing in Connexion with the Kidney. He then briefly alluded to the light which suprarenal tumours threw on the question of the internal secretion of

[4] Vide Dr. R. P. White and Dr. John Hay; "Some Recent Inquiries and Researches into the Poisonous Properties of Naphthalene and the Aromatic Compounds," THE LANCET, August 31st, 1901, p. 582.

the normal gland, the diagnosis of endotheliomata, and various theories of new growths. He dismissed Ribbert's theory in detail, pointing out the confusion which arose from a vague use of the term, "tissue tension." Mr. J. H. TARGETT said that the structure of the tumour was typical of a growth originating from a suprarenal "rest." He had shown that these "rests" existed in the broad ligament and were to be found in still-born fœtuses, but he did not think that they were of common occurrence.—Mr. SHATTOCK said that he was heartily tired of all theories as to the growth of malignant tumour, and he thought that the "tissue tension" theory had even less value than others. He referred to the experiments of Dr. H. L. Lack in which he apparently succeeded in producing new growth on a rabbit after injecting scrapings of the ovary into the peritoneum, but neither Dr. Lack nor he himself had been able to repeat the experiment which he regarded as a peculiar coincidence.

Mr. L. MCGAVIN read notes of a case of Multiple Cancellous Exostoses associated with Chondro-Sarcoma of the Ribs. He showed the bones of the left knee-joint from a patient who about five years ago developed a small hard mass on the right side of the chest-wall for which his medical attendant sent him to Leicester Infirmary. Here the tumour was explored and was found to consist of cartilage. It was thoroughly removed by scraping, but as the wound refused to heal he was re-admitted on two occasions and the same treatment was adopted. Three months ago the mass returned and was accompanied by a foul discharge. The tumour was stated to be a chondroma of the ribs. On admission to Guy's Hospital the patient's knee-joints were seen to be in the pathological condition indicated; and he further had several masses about the lower ends of both tibiæ and fibulæ. This condition he stated was present before the age of puberty. After his admission the mass, although again scraped, rapidly increased in size, and he died with all the signs of intra-thoracic growth. At the necropsy the surface of the right chest between the second and the fifth ribs was occupied by a mass of solid growth, extending from the middle line in front to the post-axillary fold. In the centre of this was a cavity communicating with the thoracic cavity by an aperture nine cubic centimetres by six; the cavity was lined by irregular bony projections and had plates and spicules of bones projecting into it in all directions. The specimen was of interest, firstly, on account of the number and size of the bony masses, and secondly, on account of the association of chondro-sarcoma with epiphyseal ecchondroses or cancellous osteomata. Bland-Sutton quoted a case from Virchow's *Archiv*, reported by Otto Weber, of "multiple symmetrical exostoses, in which a chondro-sarcoma arose in the right hip bone and attained enormous proportions." In the records of Guy's Hospital for the last 12 years 82 cases of all varieties of osteomata were recorded. Of these, in only one was a chondroma of the ribs associated with osteoma of the long bones, excluding the case in question.

Mr. H. L. BARNARD showed specimens from three cases of Gall-stone Intestinal Obstruction. The first was a calculus removed from the ileum five feet above the ileo-cæcal valve of a woman, aged 37 years. It was two and a half inches long, one and a quarter inches in diameter, and weighed dry 294 grains. The second was the liver and calculi of a woman, aged 63 years. The former showed a fistula between the gall-bladder and the duodenum. The common bile-duct was not dilated. The gall-bladder was divided into four loculi separated from one another by fibrous septa. These contained several calculi. The one which had caused obstruction was seven-eighths of an inch in diameter, one inch long, and weighed dry 103 grains. It was taken from the ileum five feet above the ileo-cæcal valve. The patient was a fat woman in whom obstruction had been present for five days. The third was the liver and the gall-stone from a patient, aged 68 years. The stone was impacted 10 feet above the ileo-cæcal valve. The liver showed a fistula between the gall-bladder and duodenum through which the stone had passed. The cystic and common ducts were not dilated.

Dr. C. H. FENNELL showed a Heart with Subvalvular Pulmonary Stenosis which had a walnut-sized diverticulum from the sinus of the right ventricle, situated at the right end of the margo acutus. The muscular wall of the process was thicker than that of the rest of the sinus. The Thebesian valve formed a long, slender, hood-shaped process floating free in the auricular cavity.

HARVEIAN SOCIETY OF LONDON.

Exhibition of Cases and Specimens.

A MEETING of this society was held on Jan. 2nd, Dr. D. B. LEES, the President, being in the chair.

Mr. A. D. REID showed a girl, aged eight years, with Congenital Shortening of the Right Lower Extremity. She was the third child and the labour was normal and easy. There was no family history of importance and no history of injury. The shortening was noticed soon after birth. The present measurements from the anterior superior iliac spine to the internal malleolus showed one and a half inches shortening of the right side. The shortening was in the thigh. The tip of the great trochanter was on both sides in its normal relation to Nélaton's line. There were no wasting of the limb, no limitation of movement, no disability, and there had never been any pain. Some compensatory lateral curvature of the spine had resulted. Skiagrams showed that the neck of the right femur was set at a much less obtuse angle to the shaft than on the left side, thus accounting for the shortening.

Mr. F. JAFFREY showed a boy, aged seven years, whom he had trephined for doubtful cerebral disease. The boy had been admitted into the Belgrave Hospital for Children on July 29th, 1901, under the care of Dr. Cautley, having been taken ill suddenly three days before with severe headache and screaming. There was a doubtful history of a blow on the head. The weather was very hot but nothing in the history definitely suggested heat-stroke. On admission the boy was drowsy, irritable, and stupid, and he took little interest in anything. The head was a little retracted and the knee-jerks were exaggerated. There was no optic neuritis or evidence of ear disease. On August 1st he developed severe convulsions which were most marked in the arm, the leg, and the face on the right side. The eyes were staring and consciousness was abolished. On the following morning Mr. Jaffrey trephined the skull over the middle of the Rolandic area. On dividing the dura mater it was seen that pulsation was absent and a considerable quantity of cerebro-spinal fluid escaped. A grooved director was passed under the dura mater in all directions, and while the fluid was escaping the brain began to pulsate again. He did not explore the brain. A drainage-tube was inserted and kept in for three days. The fits ceased, but the boy made little progress for a fortnight, after which he improved so rapidly that at the beginning of September he was on the point of leaving the hospital when he had another attack of convulsions and again became unconscious. He remained in this condition for three or four days and then recovered. Since then he had had no further attack, but the parents said that his memory was bad, and until this week he did not voluntarily use his right arm but always used his left.—Dr. CAUTLEY stated that the diagnosis was extremely indefinite and that on admission the boy seemed intensely stupid rather than really ill. The headache was not localised and there were no definite signs of cerebral abscess, tumour, meningitis, or heat-stroke. When the fits developed he had suggested operation with a view to relieve pressure. The localisation of the fits more on the right side decided the site for operation, and he had suggested at the time that the case might possibly be due to a latent abscess. There appeared to be little doubt that the operation was of very great benefit and probably of vital importance. He could not suggest what was the exact nature of the cerebral mischief, and the recurrence of the attack a month later, with subsequent immunity, made the case still more puzzling.—Dr. W. EWART thought that the causation of the symptoms by excessive intracranial pressure had been demonstrated by the operation itself and by the relief which followed. The fact that on their second occurrence the same symptoms, presumably due to the same cause, disappeared spontaneously suggested the view that transient effusions might be thrown out within the meninges and soon re-absorbed again, as this had been shown to occur in the pericardium, the pleura, and the peritoneum. Alarming but not necessarily fatal symptoms might thus be set up in susceptible subjects, but some of the worst forms of effusion and that formerly known as "serous apoplexy" might not be recovered from without surgical relief.

Mr. E. W. ROUGHTON showed a boy, aged five years, who Ruptured a Congenital Hydronephrosis by a fall. He

removed the kidney. The specimen showed congenital stenosis of the ureter at its origin from the dilated renal pelvis.

Mr. ROUGHTON also showed a man with Partial Rupture of the Brachial Plexus. An exploratory operation had shown that the seventh and eighth cervical nerves had been torn out of the inter-vertebral foramina.

Mr. ROUGHTON then brought before the society a case of Internal Derangement of the Knee-joint. A loose transverse (inter-semilunar) ligament had been removed by operation with a successful result.

Dr. L. GUTHRIE showed a man, aged 24 years, who complained of difficulty in walking for 12 years and now exhibited the following symptoms of Friedreich's disease: ataxic reeling gait; unsteadiness on standing, especially with closed eyes; absence of knee-jerks; laboured, slurred, and indistinct speech; nystagmus on external deviation of the eyes; clumsiness and over-action in use of the upper extremities; and antero-posterior kyphosis of the dorsal vertebræ with lumbar lordosis. His discs were normal, his muscular development and power were good, choreic movements and lightning pains were absent, sensation was unaffected, and intelligence was unimpaired. There was no family history of the disease or of any other nervous affection and no parental consanguinity. His personal history was peculiar. In August, 1889, he fell from a bicycle and a few days later from a swinging gate, but appeared to have sustained only trifling injuries. A month later he complained of frontal headache and rapidly lost the use of his arms and legs and his speech, and feeding was difficult on account of spasmodic closure of the jaws. There were also twitchings of the eyelids, the mouth, and the hands, and jerking movements of the whole body and the head, but there was neither loss of consciousness nor sphincter trouble. Mr. W. T. Newton, under whose care he was, thought that the symptoms strongly resembled those of chorea. In November, 1889, he was admitted into St. Bartholomew's Hospital under the care of Sir Dyce Duckworth, when the only symptoms noted were weakness of the legs, spastic gait, loss of the knee-jerks, tenderness of the cervical and dorsal vertebræ, a drawling, monotonous voice, and a faint systolic mitral bruit. His condition had therefore not appreciably changed for 12 years. The apparent onset of the disease might have been an attack of genuine chorea, but Friedreich's disease was not uncommonly mistaken for chorea. It was, however, most unusual for the choreic movements in Friedreich's disease to subside as in the present case.

Mr. JAFFREY showed a woman, aged 58 years, with Multiple Tumours on the Forearm. Several small swellings were noticed 14 months ago and caused so much pain that she could not do her work as a charwoman. There was no history of syphilis, but there was a strong family history of phthisis. On the outer side of the upper part of the right forearm were several small, very hard, prominent, subcutaneous tumours, variable in size, moveable on the subjacent tissues, and under the skin. The induration diminished under iodide of potassium. One of the tumours had been removed for microscopical examination. The diagnosis, he thought, lay between gummata, fibromata, and sarcomata. Bazin's disease had been suggested.

The cases were discussed by the PRESIDENT, Dr. EWART, Dr. BOYD JOLL, Dr. GUTHRIE, Dr. C. S. JAFFÉ, Mr. JAFFREY, and Dr. CAUTLEY.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Cæsarean Section.—Ovarian Cystomata.

A MEETING of this section was held on Dec. 20th, 1901, Dr. W. J. SMYLY, the President, being in the chair.

Dr. A. HORNE read notes on a case of Cæsarean Section and showed the patient, a married woman, 23 years of age and four feet four inches in height. She was admitted into the National Maternity Hospital, Dublin, on July 21st, 1901, being then in labour for the second time. Her first labour took place in the Rotunda Hospital in October, 1898, and lasted some 10 hours, a dead fœtus being extracted after a prolonged instrumental delivery. Dr. Horne found that the distance from the promontory of the sacrum to the lower angle of the symphysis pubis was two and three-quarter inches. The fœtal heart-sounds were audible. Cæsarean section was performed, the operation lasting about 40 minutes; the anæsthetic employed was chloroform at first and ether afterwards. An abdominal incision was made extending from three inches above the umbilicus to two inches above the symphysis pubis. The uterus was delivered through the abdominal wound, which was temporarily united behind it. An incision was made through the uterine wall, commencing high up at the fundus but avoiding the lower uterine segment. The placenta was in front and was rapidly cut through; bleeding was at once profuse. The child was seized by the buttocks and extracted, the head following without any difficulty. The child cried immediately and was found to weigh seven pounds. The assistant's hand grasped the uterine edges until Dr. Horne applied an elastic ligature. The placenta was detached without difficulty. The uterus contracted well, hot sterilised towels being applied; the wounded surfaces were brought together by means of six deep sutures and four superficial silk sutures. The abdomen was closed likewise, using silk for the deep sutures and silkworm gut for the superficial. The progress of the case was most satisfactory. Pain was experienced for only some four hours after operation, and this was relieved by one-sixth of a grain of morphia hypodermically. 30 hours after delivery the patient was given five grains of calomel. She was able to suckle her child. She sat up on the twenty-first day and left the hospital on the thirtieth day after operation.—Dr. J. H. R. GLENN said that he thought that a bold cut going right through the placenta, if it lay in the line of incision, was good surgery. The risk of soiling the peritoneum by the liquor amnii might be avoided by binding round the uterus; bringing out the womb through the abdominal incision added to the shock. For a living child he recommended the Cæsarean section, but if the child was dead he preferred Porro's operation.—The PRESIDENT said that pelvic deformities were not often met with in Ireland compared with other countries. During his seven years' term as master of the Rotunda Hospital he had only four Cæsarean sections and four symphysiotomies, yet from a letter he received from Glasgow he learnt that one of the surgeons of a maternity hospital there had nine Cæsarean sections in nine months.

Mr. E. HASTINGS TWEEDY exhibited two Ovarian Cystomata. During the examination of the patient prior to operation he had no difficulty in detecting the presence of the smaller tumour, but he utterly failed to recognise the larger, though it extended to the umbilicus and the patient was deeply anæsthetised. He advised an operation. When the patient was on the operating table and deeply anæsthetised she was again examined, but with no more satisfaction than at first. On opening the abdomen a great gush of ascitic fluid came, and he found a large cyst extending to the umbilicus, and all round a "bread-and-butter" mass, which he looked on as indicative of cancer. The term "bread-and-butter" would be found in American literature. Pulling down the peritoneum, he found cancerous masses connected with the loops of the intestines. The patient made an afebrile and uneventful recovery.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Dec. 17th, 1901, Mr. P. E. Miall being in the chair.—The following cases and specimens were shown. Dr. T. Jason Wood: (1) Specimen of Bony Outgrowth from the Third Cervical Vertebra, with cast; (2) Calculus removed from the Common Bile-duct; and (3) a patient operated on 15 months before for Chronic Empyema by extensive removal of the ribs in whom there was no lateral deformity of the spine.—Dr. C. F. M. Althorp: (1) Uterus removed for Procidentia; (2) Ovarian Abscess; and (3) Two Growths from the Large Intestine.—Mr. J. B. Hall: (1) Double Pyosalpinx; (2) Ovarian Tumour; (3) Calculus removed from the Ureter after previous Nephrectomy; and (4) Sections of an Umbilical Polypus.—Mr. W. Horrocks showed a Renal Calculus.—Dr. Wood read notes on Two Cases of Renal Calculus. In Case 1 the patient was a man, 29 years of age, who for four years had suffered from a dull aching pain in the right loin. The pain was aggravated by exertion and there had been a few slight attacks of hæmaturia. There was no renal colic. The patient had been long under medical treatment without relief and had up to the present refused surgical operation. The urine was clear and acid and showed a trace of albumin. On August 28th, 1900, the kidney was exposed by an incision five inches in length below the last rib. The kidney was

brought up into the wound and incised on its convex border. A stone which had been felt before incision was removed. No further stone was found. The kidney wound was closed by catgut sutures through the kidney substance and the organ was replaced. A drainage-tube was inserted at the posterior extremity of the wound. The patient made a good recovery and there was no discharge of urine from the wound. In Case 2 a man, aged 30 years, had complained of pain in the right side of the abdomen for about four years. The pain was usually felt at a spot on the linea semilunaris, half an inch above the level of the umbilicus; it sometimes passed through to a corresponding spot on the back, and again was felt at times over the middle of the right iliac crest. The pain came on suddenly without any apparent cause and was not influenced by position, pressure, or movement; the patient said that it was just as likely to come on in bed as at any other time. No other symptoms were present; there were no shooting pains, no pain or frequency of micturition, and no colic, vomiting, diarrhœa, or jaundice. Examination showed the patient to be a fairly healthy-looking man who presented no physical signs of disease. The urine was acid, its specific gravity was 1014, and it contained a trace of albumin, but no blood or sugar. The deposit contained crystals of oxalate of lime and one or two doubtful casts. The total daily quantity was rather less than normal, being 38 ounces. Under ether the kidney was exposed and opened as in Case 1 and five oxalate of lime calculi weighing 60 grains were removed; a bougie was passed down the ureter which was found to be free. The kidney was then irrigated with hot water, closed with catgut sutures, and replaced. In this case the kidney was unusually high up and there was very little loin space, so before the organ could be drawn up into the wound it was found necessary to divide the last rib and to turn it up. The patient made a rapid recovery which was slightly delayed by an attack of acute dermatitis caused by the mercurial dressings. No inconvenience was caused by the divided rib which appeared to have united by the time he left the hospital. Dr. Wood remarked that Case 1 was a pretty straightforward one of renal calculus and the diagnosis presented no great difficulties. Case 2 was different and on the symptoms alone (the pain) the trouble might have been referable to the gall-bladder or to the appendix. The albuminuria and the nature of the deposit directed attention to the kidney as the affected organ. It was rather remarkable that the stones, which were very rough on the surface, should not have caused hæmaturia.—Dr. William Mitchell read notes on a case of Spontaneous Gangrene of Both Lower Extremities in a man, aged 36 years. A vague history of acquired syphilis was obtained from the patient and evidence of it was seen in his wife in the shape of a ham-coloured macular eruption on the face, arms, and chest during the puerperal period. The infant had "snuffles." The patient had been addicted to taking frequent alcoholic "pick-me-ups" during the day for a number of years, but had never been given to inebriety. During the last two years he had had a number of vague illnesses which had been diagnosed as influenza and on one of these occasions he had a slight attack of pleurisy with a persistent elevation of temperature of half a degree lasting for several weeks. The circulatory system, the kidneys, and the digestive organs appeared to be normal. There was present fine tremor of the hands and the tongue; otherwise the nervous system showed no sign of disease. The present illness commenced on Jan. 17th, 1901, with severe pain in the ball of the little toe on the left side, extending along the sole of the foot and a short distance up the back of the leg. The knee-jerks were normal and there was no excessive tenderness on deep pressure over the calf muscles. Tactile sensation was diminished over the little toe only. Pressure over the sole of the foot caused severe pain. A diagnosis was made of rheumatism affecting the ligamentous structures of the foot, but no improvement resulted from appropriate treatment. He was sent to a watering place and was under the care of two medical men there who treated him with local hot-air baths and allowed a generous supply of alcohol. The baths caused excruciating pain in the limb, the muscles of which wasted very much, and the patient became very weak and ill. He was then seen by a consulting physician and by Dr. Mitchell, and a diagnosis of peripheral neuritis was arrived at. All alcohol and tobacco were cut off, but the patient still got worse and about the middle of May gangrene of the left foot had set in. As no pulse could be detected lower than the common femoral, amputation was performed seven inches above the centre of the knee-joint by the modified circular method. Nearly all the vessels cut through were thrombosed and there was very little bleeding. Shock was slight. Before the operation the pulse was 120 and the temperature ranged between 102° and 104° F. In three days the pulse had fallen to 75 and the temperature to 97·4°. On the fifth day after the amputation gangrene became evident in the right foot, in which there had been vague pains for two or three days. No pulse could be felt in the popliteal space. Amputation was performed the same day six inches above the knee-joint. The shock was much greater than on the first occasion. The vessels were thrombosed and little blood was lost. In five weeks both stumps were healed and the patient was able to sit up in a chair. In 10 weeks he went to the seaside and gained two stones in weight in nine weeks, and on his return he felt better and slept and ate better than he had done for years. Since a week after the second operation he had taken no alcohol and had given up the use of tobacco. Before the gangrene set in no symptoms of arterial disease were recognised as such by any of the medical men who saw him. On examination of the amputated limbs, however, marked atheroma of the intima of all the main arteries was found in association with extensive calcareous degeneration of the media. These conditions were demonstrated by microscopic sections and by micro-photographs.—Dr. J. H. Bell gave a short account of a famous Bradford surgeon, William Garnett, to whom Mr. (afterwards Sir) Humphry Davy was at one time assistant.

SOCIETY OF ANÆSTHETISTS.—A meeting of this society was held on Dec. 6th, 1901, Mr. Walter Tyrrell, the President, being in the chair.—Mr. H. C. Crouch read a paper by himself and Mr. E. M. Corner, entitled "Is Chloroform more Dangerous than Ether? Consideration of Respiratory Troubles following Operations during 12 Months at a Large General Hospital." On account of the divergent views held by anæsthetists with regard to respiratory complications after ether inhalation Mr. Crouch and Mr. Corner examined every patient who had an anæsthetic in St. Thomas's Hospital during a certain period, in order to see (1) if ether was responsible for lung troubles at all, and (2), if it was, how it compared with chloroform. They included in their lists only patients in whom chest symptoms accompanied by fever arose within 24 hours. In all just over 3000 patients were examined; 2400 of these had ether, and 600 had chloroform. None of the latter, though they included many mouth cases, had any lung trouble, though 10 of the former had, and one of these died. On analysing these 10 cases it was found that they occurred at all ages in persons the state of whose lungs was distinctly good, whereas there was no case in a patient with a previous history of winter cough. The patients were all apparently in good general condition and gave no trouble to the anæsthetist; they did not become cyanosed, they did not secrete an excessive amount of mucus, neither did they require an unusual amount of ether; they were all trunk cases except one case of extensive varicose veins, and the operation in every case lasted a long time. Seven out of the 10 occurred in the summer; the respiratory complication was usually bronchitis, but in three of the cases it was broncho-pneumonia. They considered that this after-effect was due primarily to the ether and secondarily to the exposure and tight bandaging after the operation. It was also a question whether the previous administration of an unduly large amount of nitrous oxide had not had some share in it. They recommended that chloroform should be given in all cases where the operation either involved tight bandaging of the trunk or was prolonged. When ether was given a loosely folded towel should be placed over the patient's mouth and nose until after removal to a ward with an equable temperature.—A discussion followed, in which Mr. Alban Doran, Mr. Carter Braine, Dr. Bromfield, Dr. R. J. Probyn-Williams, Dr. Dudley Buxton, and others took part.

LARYNGOLOGICAL SOCIETY OF LONDON.—A meeting of this society was held on Dec. 6th, 1901, Mr. E. Cresswell Baber, the President, being in the chair.—Dr. E. Furniss Potter showed a case of Perforation of the Left Faucial Pillar due to some ulcerative process and not congenital.—Dr. W. Jobson Horne exhibited some specimens of Ulceration of the Larynx in cases of Hodgkin's and allied diseases and raised the question whether the local ulcer was the site of entrance of the infecting agent.—Mr. L. A.

Lawrence showed a case of Tuberculous Rhinitis in a man, aged 35 years, treated by exposure to the Roentgen rays. The case had made considerable improvement but was not yet cured.—Dr. G. C. Cathcart showed a case of complete loss of the internal framework of the nose in a woman, aged 22 years, and inquired whether it was a suitable case for the subcutaneous injection of paraffin with the object of improving the shape of the nose.—Dr. Scanes Spicer thought that it was a suitable case and he described the technique which he had employed in a case under his own care.—Mr. E. Waggett brought forward a case of Epithelioma of the Epiglottis in a middle-aged man involving the Cervical Glands. Operative measures were thought inadvisable.—Mr. C. A. Parker showed a case of Stenosis of the Pharynx in a woman, aged 37 years, which was said to be connected with an abscess in the neck which she had when she was 10 years old. The epiglottis was bound down to the posterior wall of the pharynx, leaving an opening not bigger than a threepenny-piece.—Cases were also shown by Mr. P. R. W. de Santi, Dr. W. H. Kelson, Dr. V. H. Wyatt Wingrave, Dr. StClair Thomson, Mr. E. W. Roughton, and Dr. H. Lambert Lack.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—The fourth meeting of the present session of this society was held on Jan. 3rd, Mr. Alfred Cooper, the President, being in the chair.—The adjourned discussion on Mr. T. R. Atkinson's paper on the Small-pox Epidemic was opened by Dr. Leonard Dobson with a paper on Glycerinated Calf-lymph.—A discussion followed.—Dr. Eddowes drew attention to the importance of the care of the vaccinated arm and Dr. S. D. Clippingdale commented on the especial necessity of tests on the part of those practising among the poor, including public vaccinators.—Dr. Reece spoke on the Government requirements in public vaccination with regard to the area of vaccination, the inspection and treatment of the arm after vaccination, and the inquiry into deaths following vaccination.—Mr. Garry Simpson related his experiences with regard to revaccination, and drew attention to the necessity of extreme care in the details of the act of vaccination itself as well as in the after-care of the arm.—Dr. Bevan spoke on the importance of using an active and trustworthy lymph.—Dr. Chambers pointed out that the degree of protection conferred by vaccination depended to a great extent upon the number of insertions and that the term "vaccination" without a statement as to the number of insertions was vague and rendered statistics illusionary.—Dr. Buttar spoke on the difficulty in defining what constituted efficient revaccination.—At the close of the meeting a proposal was carried with reference to the advisability of the exercise of Government control over the manufacture and sale of vaccine lymph.

CLINICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on Dec. 17th, 1901, Dr. Herbert Lund being in the chair, in the new department of the Manchester and Salford Hospital for Skin Diseases which was opened last spring for treatment by the use of the Finsen Light apparatus and the Roentgen rays.—Dr. H. A. G. Brooke explained the theory and methods of the two treatments, and afterwards showed the Finsen and Lortet lamps and the Roentgen ray installations at work. All were in constant employment and 20 patients were thus treated each hour. A large number of patients were present to show the progress of the treatment in the different stages. The Finsen light and x rays both gave excellent results in lupus vulgaris and in lupus erythematosus, especially on limited foci. He was not satisfied that the Lortet lamp, though of great service and much more rapid, was as thorough in its action as was the Finsen instrument. The x rays had been used with very good effect also in rodent ulcer, varicose ulcers, old sycosis, and acne indurata with from 10-inch to 12-inch tubes at a minimum distance of eight inches from the patient and with sittings every second day. There had been no dermatitis. The rays had also acted beneficially in the treatment of lupus of the palate, gums, and interior nares. A demonstration was also given of the D'Arsonval-Oudin high frequency currents.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM.—The annual meeting of this society was held on Dec. 2nd, 1901. The office-bearers for the ensuing year were duly elected. Mr. A. H. Cheatle was appointed editor of the society's Transactions.—Mr. R. Lake showed a patient from whom he had removed the Necrosed Labyrinth and had secured a very beautiful specimen of the Membranous Cochlea.—Dr. Milligan showed a patient upon whom the complete Mastoid Operation had been performed with Grafting of the Antro-tympanic Cavity. The result was good and the hearing power of the patient had materially improved.—Dr. J. Dundas Grant and Mr. C. A. Ballance showed a patient who had been operated upon for Temporo-sphenoidal Abscess with complete recovery.—Patients and specimens were also shown by Dr. Herbert Tilley, Mr. F. C. Abbott, Mr. Cheatle, Dr. A. Bronner, Dr. Urban Pritchard, and Mr. C. H. Fagge.

Reviews and Notices of Books.

Water and Water-supplies. By JOHN C. THRESH, D.Sc. Lond., M.D. Vict., D.P.H. Cantab.; Honorary Diplomate in Public Health, Royal College of Physicians and Surgeons, Ireland; Medical Officer of Health of the Essex County Council; Lecturer on Public Health, London Hospital Medical College; Fellow of the Institute of Chemistry; Member of the Society of Public Analysts; Associate Member of the British Association of Waterworks; Engineer Examiner in Hygiene, London University, &c. Third edition, revised and enlarged. London: Rebman, Limited. 1901. Pp. 527. Price 7*s.* 6*d.*

DR. THRESH is well known as an authority on all matters pertaining to water-supply, and attention was recently called to the useful handbook which he lately issued on the supply of the county of Essex, of which he is medical officer of health. The excellent little book now before us is of general interest, and this, the third edition, contains additional information on the important subject of the protection of water-supplies.

It may be well to give an outline of the contents of the book. The first seven chapters are devoted to a consideration of the composition and properties of water as found in nature—that is to say, outside the chemical laboratory. The characteristics of rain, surface, subsoil, and deep-well and river waters are separately considered and a chapter is devoted to a description of natural or "mineral" springs, as they are usually called. This part of the subject is briefly treated, but the information given is ample for the purpose of the book which is chiefly designed to give the information requisite for forming an opinion as to whether any proposed source of supply can be justly considered sufficiently good in quality and abundant in quantity for the purpose for which it is wanted, and, further, to give the information necessary to form a judgment as to what the approximate cost should be of using such a supply.

A chapter is devoted to the quality of drinking water, and this is followed by one on impure water and its effect upon health. It is not quite easy to see the reason for the arrangement of the next few chapters. A chapter on the Pollution of Drinking Water is preceded by one on the Interpretation of Water Analysis and followed by one on the Self-purification of Rivers. The subjects next considered are the methods of purification of water on a large scale, domestic purification, the means adopted for softening hard water, the quantity of water required for domestic and other purposes, and the precautions to be used in the selection of sources of water-supply and the method of determining, or at any rate of estimating (which admittedly is not always the same thing), the amount available from a given source.

The protection of underground water-supplies and of surface water-supplies is dealt with in two new chapters which follow. The information brought together in this place deserves the most careful consideration by all those who are in any way responsible for the quality of public or private water-supplies. Had the book been entirely rewritten by Dr. Thresh no doubt much of the matter contained in these chapters would have naturally appeared in

other parts of the work and it is probable that the force of the teaching conveyed by the scattered facts would thus in some measure have been lost. As it stands the information given is clear, the arrangement is consecutive, and the conclusions are beyond cavil. The following chapters deal with Wells and their Construction, Pumps and Pumping Machinery, and the Storage and Distribution of Water. Mr. John C. Freeman, clerk to the Maldon Rural District Council, is responsible for the revision of a chapter on that rather complicated subject, the Law Relating to Water-supplies. There is an excellent chapter on Rural and Village Supplies. This will be found of very great use to the members of county and rural district councils who in the future will undoubtedly have in this matter great power for good or for evil. Dr. Thresh has had unusual experience in the matter of rural water-supplies, and this book, unlike many more pretentious and less useful ones, deals not only with steam-pumps, but gives information as to oil engines which have been found in certain circumstances to be of great service. The concluding chapter is devoted to the question of water charges. There is a good general index and an index of proper names.

From what has been said it will be evident that Dr. Thresh's book treats of all the most important problems connected with water-supply. It is written clearly and in a way to be of practical use; it is not overladen with pages of useless statistics, and in most cases the results of the inquiries undertaken by other workers in the same field have been assimilated by the author and are reproduced by him with all due acknowledgment and in his own words. In this book slabs of other men's work are not hurled at the reader's head.

As an introduction to the study of the question of water-supply we know of no better book, but it is something more than an elementary work. A great many useful hints will be found scattered through the book. For example, on p. 26 the use of a rain-water separator is recommended; such an instrument proves a great boon in a country house. On the matter of wells in the chalk Dr. Thresh would perhaps have done a better service to his readers had he stated fully the known facts and left the theories to shift for themselves. A good deal of interesting information which will be new to many people is given on waters which possess peculiar odours. The subject has received much attention in the United States of America and Mr. G. W. Calkins has not only made a special study of the offensive odours found in water but has elaborated a scientific classification of them in a manner which would probably have given great satisfaction to the late Dr. J. Swift.

The Diagnostics of Internal Medicine. By GLENTWORTH REEVE BUTLER, A.M., M.D. With Five Coloured Plates and 246 Illustrations. London: Henry Kimpton. 1901. Pp. 1059. Price 25*s.* net.

NUMEROUS as have been the attempts, both in this country and abroad, to compile a satisfactory work on medical diagnosis, all these attempts have, so far as we are aware, heretofore ended more or less in failure. The reason for this is not far to seek. On the conventional lines of medical authorship it is almost impossible to reconcile the necessities of systemisation with a literary style which can give any pleasure to the reader, consequently works on general medical diagnosis have either been presented in a form which is unwieldy and unpractical from a clinical point of view or excessively dull reading for the student who reads for the sake of learning. "The Diagnostics of Internal Medicine," like many other American works on medicine, is as original in method as it is successful in its execution. On the one hand, it is thoroughly practical and systematic in the arrangement, while on the other it avoids the reproach of dulness by the brightness of the style, the use of leaded and varied type, and by the remarkable excellence of the illustrations which even for an American work are extraordinarily numerous. Dr. Butler has defied the traditional and conservative routine of medical writing with which we are so familiar in this country and has embarked upon a new style of representing disease which cannot help appealing to his readers, whether they be young and inexperienced students or clinicians of experience and years. In character this book is essentially practical in form, and for the sake of variety and convenience it is divided into two parts which deal practically in the same order, but from different points of view, with the same medical subjects. The first part is concerned with the evidences of disease and the second part with the diagnosis, direct and differential—that is to say, the diagnosis of disease is approached in the first part from the point of view of the symptoms and in the second part it is treated as an entity. Part I. is subdivided into 44 sections or natural orders of symptoms, those, for instance, which are referable to diseases of the circulatory organs, of the lungs, of the digestive system, and so on. If we meet with, for instance, a symptom clearly due to abdominal disorder, we turn to the section which deals with the examination of the abdomen, and by a rapid perusal of the same we proceed to one of the following sections which treat of the digestive system, the urinary system, and the other abdominal organs. The systematic mental exercise thus inculcated is indubitably a very excellent training, and further than this it clearly can be applied to the purposes of establishing a diagnosis in actual practice.

In Part I., having discovered the presumable organ affected and the supposed nature of the lesion, we turn to Part II. for, as they are called in analytical chemistry, confirmatory tests. Here under the name of the disease are given the various signs and symptoms whereby the diagnosis can be confirmed. By means of this double-barreled reference the intense monotony of ordinary systematic works on diagnosis is avoided, and the student is trained to refer the symptom to the disease and to picture each disease-entity as a complex of many symptoms.

Having given a general description of the arrangement of Dr. Butler's "Diagnostics" by way of illustrating the ingenious method whereby the reader is assisted to form a diagnosis we propose to describe in greater detail a typical section in the first part and the complementary section in Part II. Selecting at random Section 37, which is concerned with the examination of the nervous system, we find a clear and concise account of the anatomy of the central and peripheral portions, with an excellent diagrammatic representation of the neuron. The motor and sensory paths in the brain, the spinal cord, and the peripheral nerves are illustrated beautifully with coloured diagrams, by means of which the difficulties of understanding this essential and complicated anatomical basis of neurology are reduced to a minimum. To give an idea of the liberality with which the illustrations are supplied we may mention that in the 26 pages devoted to anatomy there are no less than 20 illustrations, many of which are coloured and occupy an entire page. Most of them are original, though a few, such as those of Dr. Head, are copied from other works. Passing from the anatomy we come to the actual examination, which in the case of the nervous system entails consideration of temperament, diathesis, and degeneracy, and the testing of the motor and sensory functions, and includes the subjects of reflexes and muscular mobility. These points, according to their importance, are dismissed cursorily or described in detail. Wherever possible some diagrammatic scheme simplifies the understanding or assists the memory. The method of testing the muscles with reference to their nutrition, tone, and motor-power, as also the investigation of sensory

phenomena suggested by the author, prove how rapidly and effectively a thorough examination may be completed if carried out according to a well-thought out and systematic method. The whole section on the Examination of the Nervous System occupies 70 pages and concludes with a summary of the various diagnostic points which bear upon the nature and location of cerebral and spinal lesions.

Turning now to Part II., under Diagnosis, Direct and Differential, of Diseases of the Nervous System, we find 60 pages devoted to the subject which is dealt with according to the following classification: Neuroses—(1) sensory, (2) motor, and (3) trophic; Diseases of the Peripheral Nervous System—(1) motor, and (2) sensory; Diseases of the Spinal Cord and Bulb; Systemic Cord Diseases; Inflammation of the Spinal Meninges; and Diseases of the Cerebral Substance. The illustrations in Part II. are necessarily fewer than in Part I., but in special cases where diagrams or illustrations can help the imagination they are supplied with excellent effect According to the above classification associated diseases are grouped together with their points of difference or similarity carefully emphasised. Having made a rough diagnosis by reference to Part I., the diagnosis is completed and substantiated by the confirmatory evidence supplied in Part II., which indicates under the heading of the disease all the important symptoms and diagnostic features.

We believe that we have now given a sufficiently full description of the method of writing and of the method of using this book. In a review of this kind it is impossible, however, to convey an adequate idea of the artistic merits and the scientific ingenuity of the diagrams and illustrations, or, indeed, of the effective manner in which so dry a subject as differential diagnosis is handled and simplified. The least satisfactory portions of the book are those which Dr. Butler did not undertake himself, and this criticism especially applies to the diagnosis of constitutional disease in Part II. The account of chronic rheumatism, diabetes, and gout is altogether inadequate, and the remarks on the subject of heat dissipation in pneumonia in the case of obese subjects are absolute nonsense. With these reservations, however, we may express the opinion that Dr. Butler's work on diagnosis is undoubtedly the best work of its kind.

Handbuch der Physikalischen Therapie. (Text-book of Physical Therapeutics.) Edited by Dr. A. GOLDSCHEIDER and Dr. PAUL JACOB. Part I. Vol. I. Leipsic: Georg Thieme. 1901. Pp. 578. With 62 Illustrations. Price 15 marks.

THIS publication is intended to present to the medical profession a complete and detailed account of the various methods of treatment included under the term "physical therapeutics." The modern plan has been adopted of securing a number of contributors who severally have had the opportunities of devoting special study to particular methods of treatment and of embracing all the communications in one publication under the supervision of competent editors. The various measures now adopted for the treatment of disease otherwise than by drugs, or to assist the action of such, have considerably increased during recent years. Much yet remains to be done, however, to establish these therapeutic methods on a true scientific basis, and consequently the appearance of such a work as the one now under consideration is of considerable value as representing fully the present knowledge on the subject.

The first subject considered is that of climate from a therapeutical point of view. The theory of the effects of climate on the human body is well sketched by Professor Rubner of Berlin, whilst the application of the principles to clinical work is given by Professor Nothnagel of Vienna. The two sections are well written and contain a vast amount of information.

The second chapter deals with High Altitudes, the theoretical, or "physiological," part being written by Dr. A. Loewy of Berlin and the clinical portion by Professor H. Eichhorst of Zürich. The latter describes the various high altitude resorts under three headings—namely, those in Germany, Austria, and Switzerland respectively, the last-named naturally receiving the largest amount of attention. Brief attention is also given to the high lands of other countries, such as America and South Africa.

A historical sketch is next given by Dr. Pagel of Berlin of the Therapeutics of Pneumatics and Inhalations. "Pneumatotherapy" is considered by Dr. R. du Bois-Reymond of Berlin and Dr. G. v. Liebig of Bad Reichenhall, the former giving a most valuable account of the physiological effects of rarefied and compressed air, whilst the latter describes the various forms of apparatus which have been devised for the application of such measures for the treatment of disease. The compressed air cabinet receives due consideration. In this country this contrivance has scarcely received the attention which it deserves. Frequent immersion in compressed air has proved most beneficial in the treatment of asthma. Inhalations of various medicaments are largely adopted in the treatment of affections of the throat and chest, and a good account is given by Dr. Julius Lazarus of Berlin of the principal forms now in use.

The fifth chapter is devoted to Balneology, the theoretical considerations being in the hands of Dr. Pagel of Berlin, while the practical application of baths is treated by Dr. J. Glax of Abbazia. The various forms of baths are described and numerous illustrations aid in the description. The remarks on the indications and contra-indications for the use of the baths are, however, scarcely up to the general standard of the work.

The sixth chapter is headed by a word which has not been extensively used in this country—namely, "Thalassotherapie." The meaning is sufficiently obvious, and its application is practically confined to a consideration of the therapeutical value of sea-air, sea-baths, and the benefits or otherwise which may be obtained by sea-voyages. Dr. A. Hiller of Berlin writes on the climatic conditions and on sanatoriums by the sea, whilst Sir Hermann Weber contributes valuable remarks on the clinical use of sea-baths and also of sea-voyages.

The subject of Hydro-therapy is dealt with by Professor Winternitz and Dr. Strasser, both of Vienna. The former is responsible for a long and instructive disquisition on the theory of hydro-therapeutics—the effects of the application of water at different temperatures and by different methods on the innervation of the body, on the muscles, on the circulation, and more particularly on the excretory organs. He points out that the chief effects produced do not depend upon the direct action of the methods employed, but upon the resistance of the organism to the mechanical effects—that is to say, to the reaction that ensues, and it is on the extent of this reaction that the beneficial results of this method of treatment depend.

The last chapter in this part is on Thermo-therapy. A "Historical Introduction" is by Dr. Julian Marcuse of Mannheim, the section on the theory of the subject being by Dr. A. Goldscheider of Berlin.

The publication promises to be an interesting one and we can recommend a study of the part now published to all those who are interested in the special branches of therapeutics with which it is concerned.

Mexico as I Saw It. By MRS. ALEC TWEEDIE. With numerous Illustrations from Photographs by the Author. London: Hurst and Blackett. 1901. 8vo. Pp. 472.

MRS. TWEEDIE is an agreeable and lively guide. Many readers have enjoyed her society through Norway and through Finland, and they will find undiminished pleasure

in accompanying her to Mexico. Her adventures, if never heroic, are always entertaining, her acquaintance is wide and acceptable, and her pages are well printed and profusely illustrated. As might be expected of a daughter of the late Dr. George Harley, Mrs. Tweedie has an eye for matters of medical interest. "Pinto," that curious tropical skin disease, allied to ringworm, meets her in numerous examples at various parts of the country. "A number of men," she says, "I met, with strange white or blue patches on their brown skins due to pinto, that much-dreaded disease, called by the natives *Saltsayanolitzth*. It is supposed that mosquitoes carry it as they do yellow fever and the Indians use a particular plant named *Isteneztik* for its cure, though the remedy does not usually prove very successful. Dr. Patrick Manson tells me he considers pinto contagious and doubts the Mexican theory of mosquito transport. There are four kinds of pinto—red, blue, indigo, and white, the last being the worst, for that means losing the pigments of the skin. In its early stage pinto can be stopped sometimes by cauterisation, but later mercury is required. Unfortunately, once it begins it is almost impossible to eradicate, and it often increases with alarming rapidity. The disease is hideous, something like leprosy, which also exists in Mexico, where it is not 'separated,' unfortunately." Had she been medical by training as well as by parentage Mrs. Tweedie might have made interesting pathological discoveries of the effects of tobacco if she had pursued the remarkable evidences that she met with of its early use. The Mexican baby apparently scorns the homely comforter or the toothsome coral. Mrs. Tweedie was wont to meet him with a full-sized cigar in his baby mouth. "'Does he often smoke?' I asked the mother in amazement. '*Si, señora*, he smokes three or four cigars a day; all our children have done so at that age.' 'Does he ever let it out?' I asked. 'No, never,' replied his fond mamma, 'he would consider that a disgrace. He lights it himself and smokes it through.' 'Adaptability of temperament to climate!'" sagely reflects Mrs. Tweedie, and thus quits the subject. There is more in the matter than climate probably and less in the baby's mouth than met the eye. A Mexican cigar in Mexico and a "Mexican" in London are objects of vastly different potentiality. Mrs. Tweedie saw more peculiar sights than a smoking baby, but space does not permit us to do more than to recommend the perusal of her Mexican journeying to any of our readers who take pleasure in skilfully told travellers' tales.

Anatomy in its Relations to Art. By GEORGE MCCLELLAN, M.D. Philadelphia and London: W. B. Saunders and Co. 1901. Pp. 266, with 338 drawings and engravings. Price 42*s*.

THE author of this sumptuous volume, who has had 12 years' experience as professor of anatomy in the Pennsylvania Academy of the Fine Arts, is entitled to speak with some authority on the requirements of art students, and on the whole we are in thorough agreement with him.

In his preface Dr. McClellan states that "only those parts are explained which would seem worth dwelling upon for art application." This is as it should be, yet the author hardly acts in accordance with his precepts, for throughout the book we find illustrations of the sphenoid bone, the base of the skull, mesial sections of the head and skull, together with diagrams of the prevertebral and scaleni muscles, as well as representations of the arrangement of the muscles of the suboccipital region.

Artistic anatomies, to use an expression applicable to all works of this class, are written either by anatomists with artistic tendencies or artists with anatomical sympathies. We naturally assume that Dr. McClellan belongs to the former category, and it is as an anatomist that we venture to criticise his work.

The author makes use of a large number of diagrams in illustration of the text. Now, a diagram, though of course it lays no claim to artistic merit, should at least be accurate. We regret to say that in many instances we have found these diagrams incorrect and in some cases absolutely misleading. To quote a few examples, we may mention Plate 20, where the parotid gland is represented as overlying the mastoid process and the insertion of the sterno-mastoid muscle; Plate 27, Fig. 1, where there is a glaring error in regard to the insertion of the trapezius muscle; or Plate 40, Fig. 2, where the biceps is represented as lying on either side of the insertion of the deltoid muscle. We fail to see, also, what benefit the student is likely to derive from a study of Plate 24, Fig. 2; from Plate 40; or from such figures as those represented on Plates 44 and 46. Nor is the text always satisfactory, despite the author's statement to the effect that the "matter relating to the bones and muscles is accurate though not exhaustive." It is hardly safe doctrine to teach an *art* student that the upper end of the radius does not play any part in the function of the elbow (p. 22), nor can such a description of the origin of the infra-spinatus as this—"The infra-spinatus arises from the ridge on the scapula below the spinous process"—convey much to the mind of the student who will seek in vain for evidence of the existence of any such ridge. Surely, too, it was a mistake on the author's part to select for illustration, in such a work as this, a male skeleton displaying proportions in the upper limb akin to those of an ape.

To pass, however, from the purely technical to the applied aspects of the subject, we are glad to note a marked improvement in the character of the work. Dr. McClellan's chapters on the influence of the skeleton and muscles on the surface form, together with a brief account of attitude and posture on the "swing" of the figure, are interesting and instructive, the more so as they are abundantly illustrated by a valuable series of photographs of nude and draped models, admirably reproduced.

It is a happy idea on the author's part to represent side by side photographs of the model and the antique in similar poses, for such a device affords the student an admirable opportunity of comparing the one with the other and so enables him more readily to distinguish between the faults he should discard and the forms he must endeavour to realise.

LIBRARY TABLE.

L'Epilessia: Eziologia, Patogenesi, e Cura. By Dr. PAOLO PINI. Milan: Ulrico Hoepli.—No special work devoted to the important subject of Idiopathic Epilepsy having appeared in Italian literature for some years, the editors of the well-known Hoepli manuals have supplied the want by this monograph, in which the author has collected the recent, and especially the Italian, literature on epilepsy, and discusses in detail the etiology, the pathology, and more particularly the various methods of treatment of that condition. The social aspects of the subject are also dealt with, as well as the philanthropic schemes which have been set on foot in different countries for the benefit of epileptics.

Chimica Clinica. By Dr. RAFFAELE SUPINO. Milan: Ulrico Hoepli. 1902.—This volume of the Hoepli manuals, devoted to the subject of Clinical Chemistry, owes its value to the fact that it is written by a practical man with a long experience, in the capacity of assistant to the General Medical Clinic of Pisa, of laboratory methods and of the chemical operations employed in connexion with medical investigations. The opening chapter gives practical hints regarding the most essential of these and succeeding chapters describe the most approved methods for conducting

the physico-chemical examination of the blood and of the various secretions and excretions of the body. The final chapter discusses in a brief but clear manner the subject of tissue metamorphosis.

JOURNALS AND MAGAZINES.

The Practitioner.—The December issue continues a discussion of Bright's Disease by various writers. A very valuable article on the treatment of the disease is contributed by Dr. W. Hale White who for purposes of treatment divides patients into those suffering from acute Bright's disease and from chronic tubal and chronic interstitial nephritis. While admitting the beneficial action of water in washing out the tubules of the kidney Dr. Hale White points out the danger of permitting too large an intake of liquid. He quotes Edsall in support of the contention that serious nitrogenous loss is entailed by a too free use of water. As much as a quarter of a pound weekly may be lost in weight in this way. Dr. Hale White has no particularly novel method or remedy to advance, but the details of treatment are carefully set out and their *rationale* is explained. Egypt is the place most warmly recommended for sufferers from Bright's disease. Another valuable contribution also dealing with treatment is that of Dr. J. M. Groedel. The treatment of chronic nephritis by mineral drinking-waters and mineral baths is carefully considered and the classes of cases suited or unsuited to the Nauheim baths are differentiated. Cases of chronic parenchymatous disease are considered unsuitable, while interstitial cases in which there is as yet no great circulatory disturbance are found to benefit by the treatment. As to the ingestion of the waters, the author is guided chiefly in the amount which he permits by the condition of the pulse. In all cases he has the quantities taken and the quantity of urine passed during the treatment carefully measured daily. The treatment appears to be recommended more for its beneficial effect on the heart's action and the patient's subjective condition than for any direct influence on the renal state. Dr. F. E. Batten writes on Affections of the Nervous System in connexion with Bright's Disease and Dr. Henry Ashby writes on Nephritis in Children. The editor in another part of the magazine is mainly concerned with the election to the General Medical Council.

The Journal of Obstetrics and Gynæcology of the British Empire. Vol. I., No. 1. January, 1902. London: Baillière, Tindall, and Cox. Price 2*s.* 6*d.* net.—With the new year the first number of this journal makes its appearance. The editors announce their intention to make the publication a complete and impartial record of British work, an exponent of British obstetrical and gynæcological practice, and a summary of contemporary thought and achievement in obstetrics and gynæcology throughout the world. With the coöperation of the large number of distinguished collaborators drawn from all parts of the empire who have promised their assistance the journal should have no difficulty in fulfilling the purpose with which it appears, and it has our most hearty wishes for its success and prosperity in the future. The first article is one by Dr. C. J. Cullingworth and is entitled "An Analysis of 100 cases of Uterine Fibro-myoma," in which the conditions of the tumours and the complications to which they had given rise were verified by operation. The object of the paper is to assist us in obtaining a more accurate knowledge of the life-history of these tumours than we at present possess, and, as Dr. Cullingworth points out, it is only by accumulating such a body of evidence that we can safely allow our judgment to be guided in determining the very difficult questions which these cases continually present. Dr. Peter Horrocks contributes a very instructive paper upon Contraction and Retraction of Muscular Fibres with special Reference to the Uterus. One of the co-editors, Dr. Berry Hart, reviews the present state of obstetric medicine in a most suggestive essay entitled "Obstetrics at the Beginning of the Twentieth Century: an Attempt at an Appreciation." The more strictly clinical material of the number consists of a paper on a Case of Tubal Pregnancy of Six Months' Development without Rupture of the Tube, by Professor W. J. Sinclair, and a Case of Fœtation in the Rudimentary Horn of a Bicornate Uterus by Professor Murdoch Cameron. Dr. Arnold W. W. Lea contributes a very complete critical essay upon Anæsthesia by Subarachnoid Injection of Cocaine in the Lumbar Region: its Use in Gynæcology and Obstetrics. A review of current literature, reviews of books, and the reports of various societies conclude the number. The whole consists of some 120 pages, is of large and convenient size (royal octavo), and clearly printed upon good paper. We would like to suggest, however, that the table of contents should be printed upon the back of the cover and not amongst the advertisements, as is done at present. The chief editor, Mr. Alban Doran, and his colleagues are to be congratulated upon the prospect of future success which the first number of this journal foreshadows.

The Journal of Physiology. Edited by Sir MICHAEL FOSTER, K.C.B., F.R.S., and J. N. LANGLEY, Sc.D., F.R.S. Vol. XXVII., Nos. 4 and 5. London: C. J. Clay and Sons. Dec. 23rd, 1901. Price 10*s.*—The articles contained in this part are as follows. 1. Dr. H. M. Vernon: the Conditions of Conversion of Pancreatic Zymogens into Enzymes, with eight figures in the text. Dr. Vernon shows that extracts of fresh pancreatic glands as a rule exhibit no ferment activity for some days and then suddenly develop nearly their maximum power. When the extracts taken from the pancreatic glands of different animals are mixed the ferment activity begins to develop at once. The glycerine extracts are more active than either the alcoholic or the saline, both in regard to their tryptic and rennetic values. 2. Dr. Henry F. Bellamy: On the Agents Concerned in the Production of the Tryptic Ferment from its Zymogen. 3. Dr. J. A. MacWilliam: Rigor Mortis in the Heart and the State of the Cardiac Cavities after Death, with two figures in the text. Dr. MacWilliam finds, in accordance with the statements of Starling, Bayliss, and Brunner, that there is a slight positive pressure in the cavity of the ventricles after death amounting to about two or three millimetres of mercury; during the rigor mortis of the heart this may rise to 30 millimetres of mercury. The various conditions of the heart in asphyxia are given. 4. Mr. H. H. Dale, B.A.: Observations, chiefly by the Degeneration Method, on Possible Efferent Fibres in the Dorsal Nerve-Roots of the Toad and Frog. Mr. Dale concludes from his experiments that the evidence is complete showing that there are no fibres which have their trophic centre in the spinal cord, at least in those dorsal roots which have been examined. 5. Note on the Percentage Composition of Egg-yelk, by Dr. John Malcolm. The experiments show that the percentages of proteid fat and phosphorus in the yelks of eggs from the same hen are in very close agreement, whilst there are considerable differences in eggs from different hens, even when of the same breed. 6. The Spinal Roots and Dissociative Anæsthesia in the Monkey, by Professor C. S. Sherrington, with a plate. In these experiments, performed on macaque monkeys, one or more dorsal spinal nerve-roots were divided, and the effect on the animals' sensibility in regard to impressions of heat, pain, and touch were noted. 7. An Experimental Research into the Relations of the Posterior Longitudinal Bundle and Deiters' Nucleus, by Dr. E. H. Fraser. This article is illustrated by many figures in the text and demonstrates that the posterior longitudinal bundle plays an important part in correlating

ocular nuclei and anterior nerve-cells through Deiters' nucleus. 8. Caseinogen and its Salts, by Dr. W. A. Osborne, with one figure in the text. 9. The Respiratory Exchange during the Deposition of Fat, by Dr. M. S. Pembrey. The experiments were made on the marmot, which stores up much fat in its body in autumn and its respiratory quotient is then greater than unity. 10. A Contribution to the Chemistry of Proteids, by Dr. F. Gowland Hopkins and Mr. Sydney W. Cole. The part also contains the Proceedings of the Physiological Society for October.

New Inventions.

A PAPER BAG FOR CLOVER'S INHALER.

THE use of the indiarubber bag in successive administrations of ether with Clover's inhaler as commonly practised is objectionable upon hygienic grounds. Apart from ordinary unwholesome conditions a patient might be suffering from tuberculosis or, as a possibility, even zymotic disease. Besides acting as a cage for microbes and bacteria the rubber bag, being a non-conductor, condenses moisture from the air breathed into it, and my impression is that if that moisture remained in the air respired less irritation of the respiratory organs would occur during, and as a result of, etherisation. In practice I have successfully substituted

A, Tap for attachment of tube for supply of N_2O. B, Angle mount. C, Strong rubber band to hold the paper bag air-tight to the angle mount.

paper bags, a new one being used for each patient, for the indiarubber bag of Clover's ether inhaler. Paper bags may be used instead of rubber ones with other inhalers—e.g., Ormsby's, or wherever rubber bags are used as respiratory bags associated with anæsthetics.

They will be found more economical, especially to administrators who may not have frequent use for anæsthetics and who often find the rubber perished when they require to use their apparatus after, it may be, a long interval. The practical advantages of the paper bag are: (1) hygienic excellence at small cost—about one penny; (2) moisture does not condense within it; (3) better preservation in any climate; (4) in use it maintains its position, whether empty or full, without tending to collapse completely; and (5) lightness and elegance—important considerations with a nervous patient. The bags should be kept dry and any accidental hole or tear may be readily patched with adhesive plaster. These bags are obtainable from Messrs. Barth and Co. of 54, Poland-street, W., who have been very obliging in the matter.

RICKARD W. LLOYD,
Lecturer on Anæsthetics, West London Post-graduate College; Anæsthetist to the West London and St. Mark's Hospitals.

SUGGESTED VACCINATION OF TRAMPS.—At the meeting of the Exeter Corporation of the Poor held on Dec. 31st, 1901, a guardian drew attention to the danger of small-pox being spread by tramps and suggested that the board should compel them to be vaccinated, but the clerk said that the board had no power to enforce the vaccination of tramps.

Looking Back.

FROM

THE LANCET, *SUNDAY, JAN.* 11, 1824.

ON BATHING.

(CONCLUDED.)

No. 5.

THE following experiment of the late Bishop of Llandaff has been thought much more conclusive in favour of the supposition that something is positively received from without. Dr. Watson gave a Newmarket jockey, previously to a race, a single glass of wine, which weighed little more than an ounce, and upon weighing him immediately after the course, he was found to have increased thirty ounces, although he had taken nothing more than the glass of wine, and notwithstanding that something considerable must have been lost by the pores of the skin. The objector to cutaneous inhalation replies to this curious fact, that the additional matter might have been taken in by the lungs, and that no decisive results can be obtained without instituting processes which shall take pulmonary exhalation and absorption into the account. Under this impression, Dr. Rousseau of South Carolina made the following experiment: he poured a phial of spirit of turpentine on a table, in a close room, and walked backwards and forwards for half an hour; at the end of that time he found that his secretions manifested most unequivocally that the system was impregnated with the material. He then provided a long pipe which communicated with the external air; he breathed through it, cautiously excluding all communication with the air of the room. He then again poured out the same quantity of the spirit of turpentine and found that no impregnation had been produced. He then immersed his arm in the same fluid for two hours, luting the vessel to the skin, so that no vapour could escape; and in this case also both his urine and perspiration remained without the slightest impregnation; as was the case likewise when he smeared his body with the spirit of turpentine, while he guarded against the inhalation of the vapour by the lungs. Other experiments have been instituted with a view to ascertain, whether by immersion in the warm bath, the weight of the body is increased, and in those trials which have been marked by the greatest accuracy, the result seems unfavourable to the supposition of any fluid being imbibed through the epidermis.

To the statement, however, that no increase of weight follows bathing, the objection naturally and obviously suggests itself, that the absorption may be countervailed by the increased exhalation. In order to meet this objection, M. Seguin, an anti-absorptionist, dissolved in the water of the bath in which he made his experiments, substances which produce a specific effect when actually taken into the system. He employed the oxygenated muriate of mercury in solution, and while the epidermis was entire, he never perceived a single instance of salivation or mercurial influence. But in cases where a considerable portion of epidermis was injured or destroyed, the specific effects of mercury on the system was produced.

Experiments are still, perhaps, wanting to establish either the one or the other doctrine on an immovable footing; but we think, to say the least, that the doubts which have been thrown on the permeability of the outer skin to extraneous matter, are such as to make us cautious in believing that much efficacy can fairly be ascribed to medicinal baths (whether the impregnation be natural or artificial) beyond that which is derived from temperature applied in a liquid or aerial form. In instances of cutaneous affection, indeed, the case may be different, because in most of these last disorders, the actual skin, and therefore the mouths of the absorbents are brought into contact with the material employed—the epidermis or scarf skin being broken down in several points by the morbid action going on upon the surface; and when these cutaneous derangements happen to be manifestations of internal disorder, the impregnated bath may prove of service in two ways: 1st, by exciting new actions in the superfices of the body; and 2ndly, by influencing the general frame, so as to subdue the force of the morbific process, whence had emanated the disease of the skin. J. W.

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THE LANCET.

LONDON: SATURDAY, JANUARY 11, 1902.

"The Islanders," and Some Considerations on Conscription.

DURING the early period of the war in South Africa, when criticising the suggestion of conscription as a possible future means of increasing our army, we commended military training as an excellent thing, speaking from a strictly medical point of view. The young recruit learns discipline and self-sacrifice, and while, as a rule, he is well housed and well fed he is exercised so as best to develop his physical powers. These desirable ends are attained in no other calling, except of course in the navy, that is open to the youth of the humbler classes who has completed his school education. He may earn more money in other directions and will certainly enjoy more freedom, but the moral and physical benefits of a military training are undoubted. But conscription is a thing so foreign to the British cast of mind that its adoption in any rigid form is highly improbable. Various methods by which the strength of our army may be increased have been suggested and discussed since those dreary days when the ill-fortune of our arms in South Africa was so pronounced. And forms of conscription more or less modified are still freely talked of, but no political leader can hope to face the constituencies of the British Islands, and advocate even a modified measure for compulsory military service, with any expectation of success at the polls: so that it is vain to talk of conscription while it is practically certain that a majority of the voting members of the community will never be persuaded to sanction it. The Boer war began badly, had a second stage that was not by any means as successful as it promised to be, and has passed into a long and dreary struggle. No man worthy of the name of British citizen will forget that his country is engaged in this struggle and that lives are being daily laid down on the veldt; but as the ultimate issue is certain there is no reason why a panic of apprehension should change the national attitude towards a constitutional question. Moreover, the country is not unmindful that our powerful navy ensures us against effective invasion. Undoubtedly the nation is against compulsory military service.

There is, however, a form of compulsion that will direct young men towards military service while it is independent of Parliament; and this form may establish itself even among those to whom a system even distantly approaching that of France or Germany would be detestable—the compulsion of public opinion is meant. Public opinion is urging upon our young men the duty of training themselves for the defence of their country, even though to do so means to deny themselves other more pleasant diversions at an age when pleasure is most attractive. And with a view of arousing in this country some such spirit of patriotism, Mr. RUDYARD KIPLING has written, and the *Times* has published, his remarkably outspoken poem—"The Islanders." The author, however, seems greatly to have missed his mark and to be regarded by the public not only as a depreciator of manly pursuits but as a slanderer of his country. To our minds Mr. KIPLING'S poem constitutes a timely warning that without zeal strenuously exercised, and self-denial exhibited in a practical form, no European nation can hope to hold its own among its rivals. He has used unduly blunt language, and, in his desire to record the services of our colonies, has depreciated the mother of those colonies in a needless manner; but the admonishment was required—at least, we think so. The criticism evoked by "The Islanders" appears to deal with it largely as an attack upon sports in general and cricket and football in particular. Such criticism appears to us to be unfair. The two expressions "flanneled fools" and "muddied oafs" are to be regretted if only because they tend to obscure the real issue; but at the same time no man who has attained to years of reason and discretion will deny that cricket and football engross public attention to an absurd extent at the present day. We do not say that but for cricket and football a number of young men would have joined the South African army who have not done so, but certainly the ranks of our volunteers might well be recruited from among the devotees of athletic sports. To say, as certain of Mr. KIPLING'S critics have done, that some good cricketers, such as Major-General SPENS and Major POORE, have distinguished themselves in South Africa is beside the point. These are not men who have given up the best years of their lives to a game: they are men who have found leisure to play games while pursuing their profession. The bulk, however, of the most distinguished cricketers and football players of our public schools do not enter the army or any other profession that necessitates an early devotion to serious work. Some proceed to the universities, impelled by a school-boy enthusiasm to win further athletic distinction rather than by any desire for an academic career. Others, whether they go to the universities or not, handicap themselves for life through their desire to continue game-playing when they should be facing the manly task of earning a livelihood. But for the present exaggerated athletic craze, many of them might make good soldiers, or might, at any rate, devote some portion of their manhood, their strength, and their intelligence to the service of their country. As members of the regular army they would find themselves in the profession of all others in which bodily strength and activity, and the qualities developed by their school-boy pre-eminence at games, would aid them in the path to distinction. As volunteers they would find themselves compelled to forego some of the personal pleasures they now hold dear, and to substitute for games exercises which are at least equally healthy, and which might make them of greater use to their country. Their example would be of value in attracting to the opportunity for physical development offered by military training those who now find their principal amusement in watching the exertions of others, in calculating averages, and speculating upon the issue of cup-ties—a class

of persons upon whom Mr. KIPLING might well have specially emptied his vials of wrath and scorn.

If anything that Mr. RUDYARD KIPLING has written, backed by the weight of public opinion, should tend to lure the young men of the British Islands to regard a period of healthy training as soldiers as an essential portion of a young man's education great good will be done. Mr. KIPLING will have helped Great Britain to the attainment of a better force for home defence than an army composed of, or leavened by, unwilling conscripts will ever be. The men who have served as volunteers will be healthier men and better citizens than if they had devoted their leisure to watching others compile record scores and win challenge cups, or even than if they had themselves won fame for a season by performing feats that another generation will surpass and forget. We regret that Mr. KIPLING, who is a real patriotic force in the land, should have represented the inhabitants of these islands as profoundly indifferent to the national fame now that the day of peril is over; in his desire to do justice to the colonial contingents of our South African army he has ridiculously overstated their performance; while to frighten us into being volunteers he has forgotten the existence of our navy. But with these reservations we consider that his much discussed poem of "The Islanders" is a cry of timely warning. If he has made the cry too shrill for sensitive tympana, he is all the more likely to have aroused the sluggish sense of those who hear slowly or imperfectly.

The Atmosphere of the Old Bailey.

EARLY in last year the prolonged trial of BENNETT, the Yarmouth murderer, at the Old Bailey had as its consequence the indisposition of the Lord Chief Justice who presided at it. We called attention to this in THE LANCET[1] and questions asked in the House of Commons elicited the reply that the building was under the control of the City authorities, to whom the site of Newgate Prison was to be handed over for the construction of a Central Criminal Court more worthy of the metropolis of England. The date for the commencement of this work was not indicated and we are not aware of any visible signs that it is in progress or that its inception is any nearer than it was nine months ago. Since then the trial of the HOROS case has been followed by the indisposition of Mr. Justice BIGHAM, and it is still possible that before a new court has been built the loss of valuable life may be the price paid for the dilatoriness and lack of proper precaution exhibited by the civic authorities. They have had plenty of warning. The BENNETT trial was not the first occasion on which attention has been directed to the evil atmosphere of the Old Bailey. It was, however, a typical instance, and Dr. HOLMAN, a personal friend as well as the medical attendant of the Lord Chief Justice, and himself a frequent visitor at the court during crowded trials, expressed strongly in public the opinion that the foul air inhaled during the six days that this case occupied was the cause of Lord ALVERSTONE'S illness. His view was confirmed by Sir RICHARD DOUGLAS POWELL, but nothing has been done.

[1] THE LANCET, March 9th, 1901, p. 734.

The court is admittedly a bad one—bad for the purpose to serve which it was built—namely, the trial of prisoners—and bad from the point of view of sanitary science—a matter which no doubt did not largely occupy the mind of its architect. It is not, by the way, the court in which in 1750 two judges, the Lord Mayor, and about 60 jurors and others caught "gaol distemper" and died; nor is it, as that court was, subjected to the pestiferous influence of a contiguous prison filled with malefactors and debtors huddled together in circumstances of filth and disease that we can hardly realise in these more enlightened days. It is, however, a court ventilated by windows at each end, which cannot be opened during the sitting of the court because at the one end they are immediately over the heads of the jury and at the other almost as close to the representatives of the press. A judge might disregard the convenience and remonstrances of the latter, but he could not hope to bring his trials to a proper issue if he insisted on the former being subjected to draughts against which they would inevitably protest. As a result the windows of the particular court at the Old Bailey of which we are speaking are usually opened during a day's sitting for about half an hour in the luncheon interval, or for less time if the judge chooses to give, as judges have been known to do, orders to that effect. There is either no other outlet for foul air than the windows, or none of any substantial value; while such "fresh" air as from time to time may find its way into the court does so through doorways opening on corridors or from the premises below the dock, up the stairway by which the prisoners enter; but in the absence of any established exit for the air the atmosphere can hardly be replaced in appreciable quantities. Meanwhile, in sensational cases the usual audience is increased by eager spectators from the general public, some privileged to occupy seats (that is to say, introduced by the authorities to whose custody the court and the health of those in it are entrusted), some being barristers in robes, some pressmen and artists, and others, perhaps, jurors in waiting. The result is that, instead of only the seats being occupied which the architect designed for those destined to be present at trials, every inch of standing room is filled by persons who not only breathe and re-breathe the foul atmosphere, but also appropriate many cubic feet of space which otherwise would at any rate be filled with atmosphere of some sort. There are, therefore, two points to which the attention of the city authorities may well be directed, should they consider it worth their while to protect those whose duties take them to the Central Criminal Court. The ventilation of the courts, or of the particular court most liable to be overcrowded, should be improved as far as it is possible by temporary measures not necessarily involving a large pecuniary outlay. Steps should also be taken to avoid overcrowding by limiting the number of those admitted to the seats above and below and by forbidding the filling of the gangways with spectators. It may here also be pointed out that, unless such steps for the preventing of overcrowding are to be taken in the future, the architect of the proposed new courts should be instructed that his scheme for providing them with fresh air must take into account the fact that every inch of the floor, and not only the seats which he has introduced into his plans, will be liable to be filled by the audience.

What measures may have been taken with regard to the

designs for the proposed new courts we do not know, but the failure of the courts of the High Court of Justice to satisfy any but the most optimistic critics points to some difficulty in obtaining competent opinions as to the merits of an architect's design by those best able to judge of the practical requirements of the building to be erected. Criticism in the case of a law court should be directed to its fitness for the trials to be held in it, and as a matter of equal importance to its suitability as a living room in which large numbers of men and women will have to spend many hours at a time, while some of them will pass therein considerable portions of their working lives. Of these regular inmates the judges, owing to the elevated positions, speaking literally, which they occupy, are the most exposed to the heated exhalations arising below them. Some judges are indifferent to this, preferring a warm atmosphere that is foul to air that is purer but at the same time possibly cooler, and are also apparently unaffected by that which is distinctly injurious to their weaker brethren. Sir HENRY HAWKINS, for example, who is now enjoying a green old age as Lord BRAMPTON, never, we believe, allowed a particle of fresh air to enter his court that could possibly be excluded, and the late Baron HUDDLESTON had the same peculiar taste. These, however, are exceptions, and the majority of our judges, we feel sure, would be grateful for pure air and would certainly not deteriorate in health in consequence. At the High Court of Justice and in some country assize courts every effort is now made to provide it, but at the Central Criminal Court the promise of a future new building which has been held out for many years seems to have stood in the way of present reform or even of palliative measures. Handfuls of herbs, indeed, are laid on the ledge in front of the dock, on the judge's desk, and elsewhere as an interesting survival of bygone days when dried camomile, daisies, and fragrant leaves were considered to be prophylactic against gaol fever. No doubt the aromatic foliage offered a welcome variety to the stenches of Newgate Prison, but more is now required than sanitary bouquets. Modern judges, barristers, jurors, and witnesses, all of whom come into the court through no fault of their own, have a right to claim that their sojourn in it may be as little unwholesome as possible. If a better building cannot be provided for temporary use, which is highly to be desired, it is at least possible, as we have suggested, to improve the old one, and to prevent it from being overcrowded to a point at which the constant and effective renewal of its atmosphere amounts to an impossibility.

The Recent Situation at the Macclesfield Infirmary.

A LARGE number of references to the recent situation at the Macclesfield Infirmary have been made in the lay press, and the majority of them seem to us to have been inspired by considerable ignorance of the real points at issue. We therefore think it right to return to the subject, both in case any of our readers should be labouring under similar misconceptions, and in order that the public may through their medical advisers be properly instructed in the matter when occasion arises. The awkward position at the Macclesfield Infirmary—and how awkward it was may be judged by the fact that if two completely divergent views had not been reconciled by the 15th of this month the institution would have been left without a medical staff—was not due to general opposition on the part of the medical staff to the female practitioner. So to represent the matter is entirely unfair to the medical staff, the medical profession, and the medical press who supported the staff in their attitude throughout. The rights of women were not involved in any general manner whatever, although it happened that the sex of the junior house-surgeon was the reason that in the eyes of her superior officers disqualified her for her post.

There were two questions involved in the dispute between the medical staff and the governors of the infirmary: (1) What is the duty of a public institution towards its patients? and (2) What is the position with regard to the election of the junior medical officers that the medical staff ought to occupy? The medical staff having failed to recommend to the governors, for election as junior house-surgeon, Miss MURDOCH CLARKE, considered that her subsequent election by the governors was a distinct vote of want of confidence. The medical staff did not believe that in such an institution as the Macclesfield Infirmary a lady could adequately discharge the duties of junior house-surgeon. Certain classes of cases could not in their opinion be left to her ministrations in justice to the patients themselves; while to maintain at the infirmary a resident medical officer unable to deal with the whole routine work of the infirmary was not, they held, economical or fair to her colleagues. There were additional reasons which influenced them in the view that the election of a female medical officer to reside in the Macclesfield Infirmary was inadvisable, but with a reticence that was perhaps more delicate than prudent they laid no stress upon the matter. But others have spoken out since, and it has become clearer to the public now than it was while the dispute was acute, that the domestic circumstances, in which the resident officers of a small general hospital find themselves mutually placed are such as call for uniformity of sex. The medical staff, having these points definitely in their minds, decided that the institution would not be at its best state of public efficiency if a female resident medical officer was appointed, for it would not be able properly to meet its responsibilities towards all its patients. They thereupon expressed their minds in their choice of a candidate for the vacant post; but the governors disregarded the staff entirely and elected Miss CLARKE. And this brings us to the more important question:—What position with regard to the selection of the junior medical officers, with whom they have to work, ought to be occupied by the medical staff? This is a matter which remains to be settled yet as far as the Macclesfield Infirmary is concerned. At the meeting of the governors at which Miss CLARKE'S resignation of her post was accepted, one of the governors, Mr. R. BROWN, on whose sensible attitude in the matter we have already commented, proposed the following motion:—

"That in view of the resignation of the junior house surgeon (Miss Annabella Murdoch Clarke), which has just been accepted, the governors, with the object of avoiding in future a repetition of the unpleasant experience of the past two months, hereby place on record their opinion, subject to the

rules, as to the selection and election of senior and junior house-surgeons—namely, that when a vacancy occurs it shall be advertised at least twice in the recognised medical journals, the applications for the vacancy submitted to the honorary medical staff, with a request that they carefully consider the same and select at least three, if possible, from which the governors shall appoint."

This motion fell to the ground because it found no seconder, but the matter cannot end there. We are glad to observe that Mr. BROWN gave notice that he would propose his motion at the next monthly meeting of governors. When this occurs we trust that the governors will take Mr. BROWN'S view and, within the limits of the considerable discretion which the motion allows, will grant the medical staff of the Macclesfield Infirmary a prominent voice in the choice of the resident staff. Until matters are put upon some such satisfactory footing the infirmary may again become the scene of a quarrel that cannot conduce to its welfare.

While we congratulate the medical staff upon a position which has allowed them to withdraw their resignations and to continue their work for the institution in an honorary capacity without loss of dignity, we sympathise with them in the trial that they have undergone and in the misrepresentations to which they are still subjected. They have been, are being, and we fear will be, represented as selfish opponents to Miss CLARKE on the ground of her sex, as obstinate supporters of the old-time doctrine that women should be kept to domestic work and should not be allowed to play a part in public life or to embark on a professional career. Not one of the many journalists—we doubt if we should exaggerate if we said the many hundreds of journalists—who have written offensively of the medical staff of the Macclesfield Infirmary during the last month have taken the trouble to find out what it was to which the staff really objected in the behaviour of the governors. The medical staff have been abused as selfish, ignorant fogeys, and we fear that they must not expect any large measure of redress. Miss CLARKE, with whom both sides of the dispute sympathised, originally refused to assist either the medical staff or the governors by resigning, upon the ground that she was standing for a principle. We presume that she recognised that the principle for which she was standing was not on the *tapis*. We trust that here and there a few of our fellow journalists may also come to understand the inwardness of the dispute at the Macclesfield Infirmary, when we are certain that they will feel it their duty to make some amends to the medical staff for having depicted them as narrow self-seeking misogynists. They definitely declined to recommend Miss CLARKE to the governors for a resident post in the infirmary. When the governors selected Miss CLARKE the medical staff were compelled to resign their offices, both in justice to themselves and in the furtherance of the best interests of the institution which they were serving.

FREEMASONRY.—The St. Luke's Medical Lodge of Instruction has been formed by a committee appointed by the eight medical masonic lodges for the use of medical Freemasons. Meetings will be held at the Criterion Restaurant on the first and third Mondays in every month, from October to May inclusive, at 8.45 P.M. The first meeting will take place on Jan. 20th. Any medical Freemasons who may wish to join should apply to Mr. G. Rowell, 6, Cavendish-place, W.

Annotations.

"Ne quid nimis."

THE REGISTRAR-GENERAL'S NEW WEEKLY RETURN OF BIRTHS AND DEATHS.

JUST as we are preparing for press the Registrar-General's return for the first week of the new year comes to hand; and as it is in many respects a great improvement on former issues we think it worthy of a brief notice in our columns. In the first place, we observe that the area covered by the return is now considerably enlarged; the list of great towns for which statistics are given has been extended so as to include, in addition to Greater London, 74 other cities and boroughs in place of the 32 previously included. Uniform particulars of mortality are now therefore published weekly respecting nearly one-half of the population of England and Wales. In the second place, it will be seen that the tabular matter in the return has been re-arranged so as to present the more salient facts in a manner as convenient as possible for reference. But the improvement which seems to us the most important from a medical point of view is that which has been effected in the classification of diseases in Table 4. From the preliminary remarks in the return itself we learn that the list of death-causes in the table referred to "has been modified," but that "care has been taken to preserve the means of comparison with the former list wherever this has been possible." In this table we notice several useful amendments. For example, although the total number of death-causes remains the same, several of the less important diseases included in the former list have been deleted, and thus space has been obtained for the insertion of other and more definite diseases. Again, we are pleased to observe that a note has been appended at the head of the table to the effect that certain of the terms retained in the list (presumably because they are still in use by some medical men) are printed in italics, in order to indicate that they are either the names of symptoms merely or are otherwise objectionable. The italicised terms should therefore be used in medical certificates only in cases where more precise information is wanting. Further, we note that certain of the principal groups of disease have been subdivided in this table, so as to give opportunity for the more accurate classification of those causes of death which hitherto have been sometimes ambiguously returned. For example, deaths from tuberculous phthisis are generally certified as from "phthisis" or "consumption" simply, which term includes, according to the authorised nomenclature, other diseases besides pulmonary tuberculosis. The more precise term is therefore inserted *in addition to* the term more commonly, but less correctly, employed. So also, as an alternative for the old-fashioned but most misleading term "tabes mesenterica," "tuberculous peritonitis" is suggested. In the past tabes mesenterica has been held by some to include not only tuberculous mesenteric disease, but likewise atrophy, marasmus, and certain other ailments attended by wasting which are not necessarily tuberculous in their nature. The malignant group of diseases also has been subdivided so as to distinguish the "carcinomata" from the "sarcomata," and both of these from the numerous tribe of diseases indefinitely returned as "malignant." We believe that, inasmuch as a large proportion of the deaths in London from cancer occur in hospitals, where necropsies are commonly made, the medical officers of those institutions will gladly avail themselves of the opportunity now afforded to improve the statistics of this terrible disease. For the rest we notice that the various

forms of pneumonia are in future to be discriminated, the croupous or lobar being separated from the catarrhal or lobular forms, and these forms, in their turn, being separated from the epidemic or infective type of that disease. The italicised terms, "puerperal fever," "gastro-enteritis," and "convulsions," similarly come under condemnation, and it is to be hoped that in future they will be used but sparingly. We have said enough to show that pains have been taken to render the new weekly return as serviceable as possible, and we trust that medical men generally, as the authorised certifiers of cause of death, will assist the authorities at Somerset House to improve to the uttermost our national system of vital statistics.

THE RELATION OF THE CHURCH TO SANITARY REFORM.

A STORY is told that a Local Government Board inspector who was sent to a provincial town in consequence of an outbreak of small-pox met amongst others the rector of the parish who, being anxious to promote the physical as well as the spiritual welfare of his parishioners, asked how he could assist matters. The inspector, noting the profession of his interrogator, drily remarked: "Preach vaccination and revaccination." On the following Sunday the rector dilated upon the blessings of science in general and upon those of vaccination in particular, and on the succeeding Monday morning the public vaccinator was besieged by those anxious to follow their pastor's advice; so much so, indeed, that the lymph running out a riot was only with difficulty prevented. This little narrative is illustrative of many which might be told of the signal service which the clergy of all denominations have from time to time rendered on occasions of danger to the public health. Nevertheless, the assistance of the clergy might, we think, be more generally accorded than is the case at the present time. The opportunity of the clergy for utilitarian work of this description is, indeed, unique. Each Sunday a very considerable proportion of the population finds its way to some place of worship and this material fraction of the whole population reacts to some extent upon the remainder who, whether from indifference or for other reasons, do not often darken the doors of our churches and chapels. But even the indifferent are in no sense positively hostile to the Church, and many of them would gladly welcome any effort by which the work of the clergy might be turned into practical channels such as are here in question. We do not for a moment suggest that at festivals such as Christmas the doctrine of cleanliness should be substituted for the higher theme of peace and goodwill, but if the clergy would from their pulpits now and again urge upon their congregations the blessings of cleanliness, fresh air, and light a force would be brought into operation the results of which would soon become apparent. Not only could the clergy do this from their pulpits, but they could in their intimate and trusted relations with the poor in their homes instil into them the doctrines of health. There is no body of men more fitted to assist in bringing about a better housing of the poor than the clergy, who, by teaching the people to open their windows and to seek the light, would gradually elevate the dirtier classes to a desire for better dwellings and an unwillingness to occupy dilapidated and ill-ventilated property. In this way the clergy would indirectly assist the sanitary authorities and medical officers of health, and would help to bring about the return of men to local authorities and to Parliament who would see that the housing problem received adequate attention. There is, too, another direction in which the clergy are in a position to promote reform. Churches, many of them at least, were erected at a time when the subject of ventilation was but little attended to, and hence it comes about that the atmosphere of these places is very often during divine service either eminently oppressive from the accumulation of organic products, or altogether unbearable by reason of the draughts which abound. The clergy would be doing a good work were they to appoint through Convocation or some other body a commission to investigate the matter and to report thereon. Finally, there is still outstanding the old and somewhat threadbare subject of the communion cup. We refer to this matter with due reverence and with the true interests of the Church at heart. It must be borne in mind, however, that amongst those who gather together at the altar-rail are likely to be found some who are in feeble health and who are perhaps afflicted with communicable disease of a subacute or chronic type. It has also to be pointed out that, according to the rubrics in the Prayer-book of the Church of England, the officiating priest must consume such of the consecrated elements as are left over and above the requirements of the communicants. That an element of risk is recognised by that Church itself is obvious from the fact that in the case of private communion of a sick person such sick persons have to communicate last. We do not propose to discuss here whether or not drinking from the common chalice is in the view of the Church a custom necessary to be retained—in the Roman Catholic church communion in one kind alone is employed for the laity—but we should be glad to see the question seriously faced by the Church itself, rather than that the necessary reform should be enforced from outside or that a partial abstention should result.

THE INVESTIGATION OF CANCER.

WE have received from an evidently well-meaning correspondent a request that publicity should be given in THE LANCET to the announcement that a "cancer statistical bureau" has recently been formed in London with the object of undertaking a crusade against that disease. We are further asked to insert a circular and list of some 25 questions which the bureau desires to be answered by friends and others having special opportunities of furnishing general information respecting cases of malignant disease. We need hardly say that any judiciously directed attempt to increase the sum of human knowledge concerning this most intractable scourge will always receive sympathetic consideration at our hands; there are, however, certain fundamental conditions which are essential to the success of such an undertaking as the present, and which appear to be lacking in the scheme before us. We may at once declare that there is no problem within the domain of science which is more closely beset with difficulties than is that of the natural history of malignant disease. Accordingly we should have expected in the circular referred to some assurance that the persons undertaking the investigation possessed a competent acquaintance with scientific medicine. As, however, we can find no indication of the kind, and as moreover the name of the gentleman who addresses us does not appear in the Medical Directory, we must assume that the Cancer Statistical Bureau is exclusively composed of laymen. In a leading article in THE LANCET of August 31st last we strongly urged on the Government the appointment of a Commission to investigate exhaustively, and therefore necessarily under medical direction, the whole question of the etiology of malignant disease; and we further expressed the hope that inasmuch as His Majesty the King had publicly signified to the medical profession his earnest desire that such an investigation should be undertaken prompt effect would be given by the Government to the King's gracious request. We deeply regret that although many months have elapsed since the period referred to, yet another year has closed and still no Commission has been appointed. It is to be hoped that when Parliament again meets next week pressure will be brought to bear upon the Government

to secure that adequate investigation of this most important subject should be no further delayed. From what has been said our correspondent will gather that we think it inadvisable to attempt such a partial, and therefore insufficient, inquiry as that advocated by the bureau; and we do so mainly out of consideration for the feelings of relatives who may be called upon to supply the information asked for. The intrusion of such questions as those proposed at a time of actual or impending bereavement can be justified only on the ground that by such means future suffering may possibly be spared to others: and as we are satisfied that the scheme of the bureau will leave the main subject of the essential nature of cancer untouched we think it better that a competent scientific authority, such as the Commission suggested, should be empowered to deal exhaustively with the entire subject. We are therefore reluctantly obliged to say that we cannot give effect to the wishes of our correspondent.

SANITARY WORK IN MANCHESTER.

OUR Manchester correspondent writes:—Defective drainage, with the nuisances and injurious consequences resulting from it, is one of the commonest facts and experiences of either town or country. Some years ago its supervision by the municipal authorities of Manchester was very imperfect, the work and the responsibility being divided between the sanitary and the paving and highways committees. Reports as to nuisances from defective drainage received by the former were referred to the latter, who, when property owners failed to remedy the nuisance, stepped in and did the work, charging the owners with the cost. This was the theory but it failed in practice, for the highways committee could not cope with the work and many complaints of its shortcomings were made both by the public and by the medical officer of health. In 1896 it was arranged that this inefficient system should cease and that the sanitary committee should take entire charge of the matter. The house drainage subcommittee of the sanitary committee now superintends the house drainage department, which is an offshoot or extension of the sanitary department. At first there were only three inspectors, then two more were added, and now there are seven at work in the city under the direction of the manager, while in the town-hall eight clerks are engaged in the work of the department. In a report issued in 1898 it was stated that 95 per cent. of the drains examined were defective, while fully 80 per cent. were in a "deplorable" condition. Of the orders executed up to that time "over 35 per cent. originated through death, fever, or other sickness on the properties concerned." To show the extent of the work it may be stated that during the financial year ending last March, a sum of £26,205 was expended on repairs, the number of houses dealt with being 5253 and of business premises and public buildings 894, making a total of 6152. The drainage of Manchester has always been supposed to be fairly good, though what to do with its products has seemed an almost insoluble problem. But the revelations of the inspectors show that though ignorance may be bliss, it is not folly to be wise. "Butt-ended pipes" without sockets were common and as a consequence there were cesspools under houses. One was found under a restaurant, 17 feet deep. Personally I remember a case of bad throat that occurred in a good house occupied by a well-known engineer who was quite sceptical as to anything being wrong with his drains. But on investigation it was found that an old brick drain, filled with sewage matter, extended right under the house. It will probably be some time before such things cease to be brought to light in the older parts of the city. Now all pipes must be socketed and be properly fitted with cement and the work has to come up to a high standard. When a nuisance is reported a notice of 14 or 21 days is served on the owner or agent. If the necessary work has not been done by that time one of the sanitary inspectors visits and reports to the house drainage department. The owner is then advised that the corporation is about to do the work, and if this is not effective the contractor for the district is instructed to remedy the nuisance. This is done under the close supervision of the inspector, and before the work is covered up the drains are tested thoroughly by the water test. All new drains, their course and condition, are marked on the ordnance map. The inspectors are all trained men who have passed a technical and practical examination. There is no doubt that the department is doing work that will tend to improve the public health. Bad as the drainage has been in Manchester, it is probably quite as good as in other large towns throughout the country, so that an immense amount of work has still to be done before it can be said with truth, though it is often said in ignorant faith, that "our drains are all right."

THE DIAGNOSIS OF SYPHILITIC INSANITY AND GENERAL PARALYSIS.

Dr. W. K. Walker, Dr. Theodore Diller, and Dr. R. G. Burns have published in the December number of the *American Journal of the Medical Sciences* an article which discusses the differential diagnosis of syphilitic insanity and general paralysis, with cases illustrative of the same. According to Fournier 21 per cent. of patients with tertiary syphilis developed cerebral affections of syphilitic nature, and in nearly all such cerebral cases mental disorder was present. The above-named writers believe that "syphilis may be an etiological factor in the production of insanity through toxæmia or through exhaustion of the highest psychical centres from worry and anxiety." Such exhaustion, they say, might also result from venereal excesses, traumatism, alcoholic and other intoxications, and infectious fevers such as influenza. When the mental symptoms were at first uncomplicated with such manifestations as sudden faints, convulsions, paralyses, or optic neuritis, diagnosis of both syphilitic insanity and general paralysis was difficult, and the malady might be often overlooked and the hope of early treatment lost to the patient. Whether the mental symptoms assumed a hypochondriacal, delusional, maniacal, or melancholic type they speedily tended to pass into dementia. The following cases afforded practical illustration of the points of diagnostic importance. Case 1.—The patient was a man, aged 35 years, whose parents were neurotic and "queer," and whose paternal and maternal relatives were tainted with insanity. Up to the age of 16 years the patient had suffered from violent attacks of intestinal colic. He was bright and intelligent when at school, but became addicted to excesses in drinking and smoking since the age of 18 years. He got readily and unduly intoxicated with small doses of alcohol. He contracted syphilis at the age of 18 years and married at 22, the union being unhappy and leading to a separation. In August, 1899, he sustained an injury attended with fracture of several ribs produced by a falling weight. He had barely recovered from this when he contracted malaria, from which he suffered continuously for three months. He now became dazed and oppressed, had intense headache and insomnia, grew irritable and suspicious towards his friends, and had occasional outbursts of frenzy, during one of which he attempted to murder his wife. In July, 1900, he had two "fainting spells" and began to suffer from hallucinations of hearing "music." An obscure febrile attack followed in which he seemed to be suffering from visual hallucinations of horrible objects. He recovered from this attack, but recurrences took place twice afterwards (during September)

and after the third attack there was left behind a paralysis of one arm lasting a fortnight. His mood was now generally sullen and irritable. There was a trace of albumin in the urine, the pulse was 92 per minute, and the heart beats were feeble and irregular. The tendon reflexes were all exaggerated, especially on the left side. The left eye showed atrophy of the optic disc. In December his condition grew worse; he was now bedridden and demented, and had difficulty of swallowing and incontinence of urine and fæces. He died while in a state of coma on Dec. 23rd. The necropsy showed a normal appearance of the pia-arachnoid membranes, but the peri-vascular sheaths were the seat of a nuclear proliferation which extended into the finest lymph-spaces and sacs. A small number of the blood-vessels showed thickening of the muscular coat, and but comparatively few showed thickening of the intima. The nerve-cells of the cerebral cortex showed slight degrees of chromatolysis with Nissl's method. The writers believe that the *modus operandi* of the morbid process was as follows: "Through the changes in the vascular walls the flow of lymph in the peri-vascular channels must have been greatly interfered with, and this was probably a more powerful factor in the production of symptoms than the [rare] narrowing or occlusion of the lumina of the vessels." Case 2.—The patient was a man, aged 38 years, a sailor and machinist. There was no history of syphilis. In February, 1900, he had an attack of left-sided hemiplegia and hemianæsthesia. This lasted a few (from five to seven) minutes and consciousness was retained. A second attack occurred two weeks later and in April he had two more attacks. It was now noticed that his memory was impaired. In July a fifth, and in October a sixth, attack occurred, the last being of great severity. A complete left-sided paralysis now appeared and he also had general convulsions. He remained in a stuporous condition from which he rallied, but presented symptoms of permanent mental enfeeblement. In December he again developed convulsions, in the course of which he died. The necropsy in this case presented all the meningeal and cortical appearances characteristic of general paralysis of the insane, and microscopical examination confirmed the diagnosis. The first case was one of syphilitic insanity in the stricter sense and the latter was one of general paralysis in which no history of syphilis could be obtained.

CERTAIN PERILS OF CHILD-LIFE.

THERE are some subjects in regard to which a divergence of opinion is permissible. There are also cases where a conflict of views may entail such vital consequences to the general well-being that a positive decision, at all events on the part of persons in authority, is practically indispensable. To this class belong those cases of avoidable infant mortality which are due to overlying. Dr. F. J. Waldo, coroner for the City and Southwark, held an inquest on Dec. 30th, 1901, touching the death of an infant which was shown to have been caused in this way. In the similar case of another child, where the evidence obtainable was less convincing, a verdict of "Natural death" was returned. The mother in this instance showed a regrettable prejudice in favour of her practice of taking her children to bed with her. We are informed by Dr. Waldo that deaths directly attributable to overlying are in his district of very frequent—of almost weekly—occurrence, and his experience in this particular coincides with that of other metropolitan coroners. Another avoidable and all too common danger to child-life is that of accidental burning. In this connexion we may quote the evidence of Dr. W. Wynn Westcott, coroner for North-East London. At a recent inquest on the body of a child thus burnt to death he is reported to have said that a lamentable number of children die from this cause every year and that in 1899 as many as 600 were thus sacrificed. It is believed that the Government is contemplating the advisability of treating all cases in which a child left alone has been fatally burned as offences punishable by fine or imprisonment. Such a view of its responsibilities and its duty as is here indicated is entirely creditable to the Legislature. We would strongly recommend, and not for the first time, that the case of overlying (a fault of practically identical character) should be included under the same regulation. Whatever the ignorance, the prejudice, or the caprice of a parent may suggest to him or her, it is obvious that there are limits to his or her liberty of action in respect of it. Those limits have been passed when a child's life is gravely endangered by heedless imprudence or obstinacy.

JAMAICA AS A HEALTH RESORT.

A CORRESPONDENT has placed before us in glowing language the advantages of a stay in the island of Jamaica to those who desire to escape the rigours of the English winter. He points out that the mean temperature and average rainfall on the island from November to April prove Jamaica to possess an ideal climate for invalids—mild, uniform, and dry. He testifies from personal experience to the benefit which he himself derived from a visit. Thanks to the enterprise of the Elder Dempster Line, the policy of which is guided by Sir Alfred Lewis Jones, K.C.M.G., whose interest in public health is second only to his interest in shipping, the sea passage now occupies only 13 days, while the accommodation provided on the steamers is good and the fares are reasonable. Altogether, we think that our correspondent makes out a very good case for visiting the island of Jamaica, and we see no reason why patients with phthisical tendencies should not be recommended to sojourn there, taking advantage of a cordial reception which, if we may judge by recent communications which we have received on the subject, will no longer be extended to them by certain well-known continental health resorts.

THE POISONOUS EFFECTS OF METHYL ALCOHOL AND "COLUMBIAN SPIRITS."

THE poisonous effects of methyl alcohol are not limited to those which follow its ingestion by the mouth. Professor H. Würdemann, who holds the chair of ophthalmology at Milwaukee Medical College, has recorded in *American Medicine* of Dec. 21st, 1901, cases which illustrate the peculiarly noxious effects of methyl alcohol when inhaled into the system. Attention has already been called in THE LANCET[1] to the subject of blindness produced by drinking preparations containing methyl alcohol, such as bay rum and "Jamaica ginger," a practice which seems to be not unknown in some countries. The following two cases published by Professor Würdemann are, however, unique in medical literature as illustrating the dangers to which workers in "Columbian spirits" and varnishes may be exposed by continued inhalation of the fumes of methyl alcohol which enters largely into their composition. In the first case the patient was a man, aged 53 years, a painter by occupation, who, after working for a period of six days with shellac and Columbian spirits, had to discontinue work on account of severe frontal headache, dizziness, and nausea. The following day his sight became dim and next day he was completely blind. He was unable to see for 24 hours, after which his sight was gradually restored. The diagnosis was amaurosis from methyl alcohol. In the second case the patient was a man employed as a painter, and on work similar to that in which the previous

[1] THE LANCET, July 13th, 1901, p. 93.

patient was engaged. The symptoms which developed in this patient were similar in all respects to the previous one. "No similar cases to these two," says Professor Würdemann, "have been reported, although others of blindness from *drinking* methyl alcohol have been given." In the "Annals of Ophthalmology" for the years 1892 to 1894, in a monograph on "Toxic Amblyopias," the only instance reported of blindness from drinking methyl alcohol was a case first described by Mengin in 1879. The patient in this instance was a convict who used to drink the methyl alcohol separated from varnish by precipitating the gums held in solution by the alcohol. As regards the blindness following the drinking of "Jamaica ginger," Dr. H. Woods has published in the *Ophthalmic Record* for February, 1899, six cases due to this cause, as well as other cases of similar blindness resulting from the drinking of essence of peppermint which, on analysis was found to be composed mostly of methyl alcohol. Professor Würdemann thinks that the *modus operandi* of the poison is as follows. The methyl alcohol circulating in the blood acts upon the optic nerves, producing a retro-bulbar neuritis. The clinical symptoms of this are marked dimness or loss of sight, paralysis of the pupils, and a degeneration of some of the axial fibres of the optic nerve—those concerned chiefly with central vision. The optic disc on examination looks whitish. The symptoms of blindness are temporary and sight is restored wholly or in part according to the degree of lesion sustained by the fibres of the optic nerves. This degree of injury is variable, the prognosis being good in the case of toxic amblyopia from fruit-alcohol, or tobacco, but grave in the case of poisoning with methyl alcohol. The lesson to be drawn from this is that workers in varnishes and other substances containing methyl alcohol should take care not to inhale the fumes.

THE PROTECTION OF WORKERS IN VULCANISING FACTORIES.

VULCANISED indiarubber differs in several respects from the product as originally obtained from the tree which yields it, the principal changes in its physical characters being an increase in its softness and pliability and an acquired readiness to be moulded or otherwise shaped into the most diverse forms. In this treatment of the indiarubber much use is made of bisulphide of carbon, a very volatile liquid, the vapour of which is extremely fœtid, inflammable, and deleterious when inhaled. In hardly any industrial process is there greater need of free ventilation than in this, and Dr. D. Glibert, of the Belgian Inspection du Travail, has published[1] an interesting account of the arrangements adopted by a Belgian firm engaged in this work. The vulcanising room of the factory is 62 feet long by 36 feet wide, by 28 feet in height to the ridge pole, and is lighted by four large windows in the sides and many skylights in the roof. At a height of 13 feet within the room there is a large horizontal air-shaft of sheet-iron having six lateral branches, each nine inches in diameter, through which air is driven into the room with a velocity of from 800 to 1000 feet per minute. The dipping-table (*table de trempage*) has a double row of troughs arranged alternately about five feet apart on each side of an extracting shaft (*gaine aspiratrice*); this shaft rests on the floor, runs the whole length of the table, and has an exhaust fan at its outer end. Each trough is below the general level of the table, standing in a recess the bottom of which is in connexion with the extracting shaft, so that the fresh air supplied in a current from above draws the vapour of bisulphide of carbon downwards away from the worker. Between the troughs the table top is formed of wire gauze, the vacant space beneath which is also in connexion with the extracting shaft, an arrangement by which any bisulphide of carbon that may be spilt is vapourised and carried away. In order that these mechanically produced air currents may be under control the windows and other openings are kept closed during working hours. The air loaded with bisulphide of carbon vapour is led into a purifier containing two chambers filled with shavings moistened with petroleum which absorbs practically all the offensive vapour and prevents the creation of a nuisance to the neighbourhood. Arrangements have also been made to protect the workpeople against the inhalation of powdered talc which escapes in clouds when an india-rubber ball accidentally bursts during forcible inflation. Dr. Glibert's descriptions of these various contrivances are accompanied by numerous photographic illustrations.

[1] Brussels: A. Lesigne, 27, Rue de la Charité.

TRYPANOSOMATOSIS IN MAN.

MAJOR RONALD ROSS, I.M.S. (retired), writes:—"A letter and preparation have been received from Dr. J. E. Dutton of the Liverpool School of Tropical Medicine from the Gambia, concerning a case of trypanosoma in a European. The preparation reveals typical trypanosomata, few in number. The account of the case shows that the patient has been suffering from a form of relapsing fever with peculiar œdema of the eyelids and puffiness of the face, also œdema of the legs, general weakness, abnormal frequency of pulse and of respiration, and enlarged spleen. There was no organic lesion of the heart and kidneys, and no malarial parasites were found after repeated examination. The relapsing fever recalls that of horses suffering from the same parasite. It is not yet certain whether the parasite approximates to T. Brucii or to T. Lewisi. Dr. Dutton is now on his way home and will record the case in detail on his return."

STAMPING OUT YELLOW FEVER IN HAVANA.

THE Division of Insular Affairs of the United States War Department has just issued a report giving statistics in regard to the prevalence of yellow fever in Havana. From this official document it would appear that great progress has been achieved in coping with this endemic and most fatal disease. The medical department of the United States army is convinced that yellow fever is propagated by mosquitoes. Consequently, last February measures were adopted in Havana to kill the mosquitoes in the neighbourhood of each case of yellow fever. Now, it is stated that from the end of last September to the end of December there has not been a single case of yellow fever in Havana. This is all the more remarkable as during the months of October and November yellow fever is usually most widely spread in that city. Since the first systematic collection of statistics the average number of deaths from yellow fever in Havana during the month of November has been 48. The minimum was recorded in 1893 when there were only 13 deaths and the maximum in 1898 when there were 244 deaths. In November, 1900, there were 214 cases and 34 deaths. It is, however, the figures for the months of April and December that give the most encouraging results, and they follow upon the measures taken against the mosquitoes. During the previous years the average number of deaths in Havana from yellow fever amounted for these months to 411. Last year there were only 52 deaths from this cause. The report states that: "For the past century there has never been a day during October and November when there were not many cases in Havana, and very few years can be picked out in all this time in which the record for each day during these months does not show several deaths." Taking the deaths from all causes the maximum during the month of November was attained in 1898, when 2054 persons

died. The minimum was in 1900, when there were only 444 deaths. The average deaths in November from all causes is 902, but in November last year there were only 443 deaths. This is equal to an annual death-rate of 19·58 per 1000, and compares favourably with any town of the same size in any other part of the civilised world. The death-rate for the month of November in Havana has in the past often amounted to about 100 per 1000 per annum and the average for that month was 38 per 1000. Thus we have another and an excellent object lesson of what sanitation can do in a general way to reduce death-rates, supplemented, in this instance, by special measures against yellow fever.

IS THE COAL-SUPPLY OF ENGLAND SERIOUSLY DIMINISHING?

IN a letter to the *Times* of Jan. 7th Professor Raphael Meldola expresses regret that the question of the waste of coal by imperfect combustion in grates, stoves, and factory furnaces has not been specifically included in the terms of reference of the recently appointed Royal Commission on Coal Supply. Everyone will share this regret with Professor Meldola, for the appointment of such a strong Commission of capable men would afford an excellent opportunity for dealing decisively and authoritatively with the question of smoke-polluted atmospheres and their prevention. But, as we suggested in an annotation last week, the Commissioners in dealing with the question of the immense waste of coal through defective ways of burning it, will surely be brought face to face with the question of the prevention of smoke, for smoke implies waste, and if the Commissioners succeed in showing how this waste can be prevented they will have indicated at the same time how the evil of smoke may be abated. There is little doubt, however, that primarily the Commission was appointed to determine the broad question of future resources and supply, having regard especially to the needs of the navy as well as of industrial processes. But we should be surprised if the Commissioners found that the question of the prevention of smoke could be avoided considering that in London alone it is calculated that there are discharged into the atmosphere daily some 18,000 tons of unconsumed fuel. That alone is eloquent testimony of the need for investigation.

THE RESULTS OF PARTIAL GASTRECTOMY.

IN March, 1899, Mr. J. Rutherford Morison of Newcastle-on-Tyne showed at the Clinical Society of London five persons on whom he had performed partial gastrectomy for malignant disease of the stomach. In commenting on these cases we expressed the hope that Mr. Morison would later let the surgical world know the after-results, for obviously in several of them the interval after the operation was far too short to justify an opinion as to an absence of liability to recurrence. We are indebted to Mr. Morison for furnishing us with further particulars of these cases, which appear in this issue of THE LANCET (p. 86). In the first case pylorectomy was performed in 1897, and for nearly three years the patient was perfectly well, but signs of recurrence then appeared, a great part of the lesser curvature of the stomach was involved, and she died three years and two months after the operation. The second patient continued well for 18 months, but then he began to lose weight, and he died two years and two months after the operation. At the necropsy the neighbouring lymphatic glands and the liver were extensively affected by the growth. The third patient first had signs of recurrence eight months after the operation; a large swelling appeared in the epigastrium, and she died 15 months after the pylorectomy. In the fourth case the patient had perfect health for nearly two years, but then he had a febrile attack, and as he recovered from that signs of recurrence of the growth appeared, and he died 11 months later with a large mass in the epigastrium and an enlarged liver. In the fifth case gastric symptoms appeared about two months after the operation, and death occurred about six months after the pylorectomy. On a superficial consideration of these cases it might at first be thought that they were unsuccessful, for in every one of the five recurrence occurred either locally or in the liver. This is certainly true, but it must also be borne in mind that in all the cases there was a period of absence of symptoms, more or less lengthy, but extending in one case beyond two years. During this period the patients gained greatly in weight and were able to digest ordinary food. The lessons to be learnt from these cases are: 1. That malignant disease of the stomach is frequently more extensive than appears to the naked eye, for in most of the cases local recurrence took place. Therefore, a very wide removal of the growth is indicated and the experience of the last few years shows that large portions or the whole of the stomach may be removed without any serious disturbance of the digestive functions. 2. Since recurrence in the second case occurred in the lymphatic glands and in the liver though the stomach itself remained free it is obvious that these must have been affected before the operation. The only method of obviating such a result is to operate early and for the opportunity to do so the surgeon must be indebted to the physician who invariably sees these cases first. If an evident swelling in the epigastrium is awaited before a diagnosis of malignant disease of the pylorus is made a very large proportion of the cases will be too far advanced for complete removal of the growth, for the lymphatic glands and the liver will be already affected. So far as the surgery of Mr. Morison's cases goes nothing could have been better; from the operation itself recovery in all cases was speedy and complete, but the operations were undertaken at too late a date for the complete removal of the disease.

SMALL-POX AND CHICKEN-POX.

WE have on several occasions referred to the difficulties which may arise in the differential diagnosis between small-pox and chicken-pox. Some of the metropolitan boroughs have already decided to make chicken-pox a notifiable disease under the Public Health Act and the council of the borough of Paddington has now decided to do likewise. The council also at the meeting held on Jan. 7th passed two resolutions: (*a*) urging the London County Council to put in force the powers conferred by Sub-section 6 of Section 56 of the Public Health (London) Act, 1891, with a view to making chicken-pox notifiable throughout the metropolis; and (*b*) to forward copies of the resolutions to the city and borough councils of the metropolis and to the councils of all the districts within Greater London. We also urge the public health committees of other boroughs to adopt a similar course. The addition of chicken-pox to those diseases which a medical practitioner is obliged by law to notify need not be a permanent one, but it might be enforced for a period of 12 months only or until the present outbreak of small-pox has subsided. A correspondent sends us an interesting account of a family attacked with chicken-pox. Three children, aged respectively six, four, and two years, suffered from varicella at the same time. Two of the cases were of the ordinary type, but in the eldest child the eruption was very profuse and the amount of constitutional disturbance which followed was characterised by feverishness and headache. There were well-defined ulcers in the mouth and on the fauces. The child had been successfully vaccinated. In all three cases there were no premonitory symptoms, the rash being the first evidence of anything ailing the children. About a fortnight after the rash appeared on these children the

mother gave birth to another child who was born with four papules upon the body which developed into vesicles and ran the usual course without any further increase in number. Had the severe case above mentioned been an isolated one it might well have puzzled most practitioners as to whether it was one of chicken-pox or of small-pox.

ARTIFICIALLY MATURED (?) WHISKY.

COUNTLESS attempts have been made from time to time to remove rapidly the raw characteristics of new whisky, but no real success has ever been attained comparable with the mellowing influences of age. The common and erroneous belief is that new whisky would at once be made as old if such things as fusel oil, furfurol, and probably other aldehydes could be extracted or destroyed. That is not the case. The product would then be simply alcohol and not whisky at all and spirits of wine might as well be consumed. It is constantly forgotten that genuine old whisky is palatable and wholesome because those very products which give it a raw, harsh, and disagreeable taste when it is young are the very constituents which time, and time alone, fashions into pleasing flavour. In fact, the harsher the taste when young the more full-flavoured is the whisky when matured. This salutary change is due to a gradual resolution of certain of the products of distillation, but not the alcohol, into new bodies which communicate to the whisky its characteristic flavour. These products, therefore, the aldehydes and higher alcohols, are essential to the production of a wholesome and good-flavoured spirit. This result cannot possibly be gained by chemically abstracting these bodies as it is proposed to do. In fine old brandy the flavour is due essentially to these bodies assimilating each other, so to speak, over a long period of time and producing wholesome flavours. The ethers in particular, upon which much of the excellent medicinal effect of old brandy depends, increase largely with age and the ethers themselves are most probably a product of the union of the raw bodies. To eliminate these raw bodies, therefore, by a chemical process is to eliminate the materials which afterwards contribute the finest characteristics, and such a spirit cannot be regarded as being in any sense equivalent to a spirit mellowed by age. The process may take out deleterious things in a new spirit but it does not leave old whisky or old brandy behind and such extracted spirit would probably never be the better or more wholesome for maturing in the absence of those ingredients which make old spirit acceptable to the palate and the economy. The temptation to mature spirits artificially is, of course, very strong as storage represents so much capital locked up and some amount of loss by evaporation. But such artificial preparation can never be looked upon as fit to replace the spirit mellowed by age, and any attempt to substitute it is to be deplored and certainly on medical grounds to be discountenanced strongly.

THE VON COLER LIBRARY.

WHEN in March last the late Inspector-General A. von Coler, the head of the medical department of the German army, was about to celebrate his seventieth birthday, it was resolved by a number of his friends, inclusive of many university professors besides military medical officers, to present him with a collection of works, all connected with military medicine, which should be entitled "The von Coler Library." Up to the present 10 volumes have appeared, but the list is not yet complete. The works published are as follows:—1. Kubler: "A History of Small-pox and Vaccination." 2. Buttersack: "Non-medicamental Therapeutics." 3. Transmann: "Operations on the Brain." 4. Fischer: "Operative War-surgery." 5. Zuntz and Schumburg: "The Physiology of Marching." 6. Köhler: "A History of War-surgery." 7. Behring: "Diphtheria." 8. Muschold: "The Plague." 9. H. Jaeger: "Cerebro-spinal Meningitis." 10. Gerhardt: "The Therapeutics of Infectious Maladies." According to a writer in the *Archives de Médecine et de Pharmacie Militaires* for December, 1901, von Coler is regarded as the reorganiser of the military medical service in Germany. It is owing to his energy that this department has undergone complete reconstitution since the Franco-German War. Amongst other benefits, the army owes to him the rehabilitation of its hospitals, which are now provided with all the requirements of modern science. To von Coler are also due the establishment of sanatoriums for convalescent soldiers and the institution of bacteriological laboratories. Under his rule German military medicine has increased in importance and widened its scope. By the creation of teaching centres, as well as by procuring the appointment of young medical officers as clinical assistants, he has opened out channels of instruction which heretofore were closed, thereby adding immensely to the efficiency of an important section of the war machine.

THE ISLAND AND ROYAL MANOR OF PORTLAND.

COMMENDABLE steps have recently been taken in the quaint town of Portland to assure for its inhabitants and its visitors a clean bill of health. The drainage of the island was formerly of the crudest description, exposed sewers emptying into cesspools which were for the most part in a leaky and insanitary state. The sewers consisted of old stone drains which were originally open channels that from time to time were covered. In the scheme just recently completed at a cost of £25,000 some 20 miles of stoneware pipe sewers have been laid in such a way as to provide for an ample fall, no gradient being less than 1 in 150 at any point. The system is thus self-clearing. The drainage area comprises two districts, each having its own outfall. The first district discharges into West Bay into deep water, and from observations made in regard to the tide it was found that the sewage immediately on discharge was carried far out to sea. The length of the outfall sewer is over 400 feet from the shore and it is constructed of heavy iron pipes with turned and bored sockets and spigots bolted together and supported on cast-iron piles. The construction of this outfall was carried on under considerable difficulty owing to the prevalence of heavy seas at the time. As it was the temporary plant and staging were washed away, but the sewer has been well and truly laid, inasmuch as it has been unaffected by the heaviest gales. For the purpose of drainage the town is divided into two districts. Some portion of the first district proved to be too low for the satisfactory discharge of sewage, and in such cases patent sewage lifts were used. In one instance the sewage from the high level part of the district is used in conjunction with air compressors for raising low-level sewage. In other cases water from the mains was used. The sewage from the second district is discharged through an iron pipe fixed in a line with the face of the cliff into deep water, and entering a strong current is rapidly carried seawards. The house connexions without exception are being laid by the urban district council's own workmen. The sewers receive the drainage of the Admiralty hospital and works. A new hospital is shortly to be erected by the Admiralty at a cost of about £30,000. The water-supply of Portland is derived from a deep well in chalk 160 feet deep with headings 900 feet. The water is collected in a reservoir at Upwey which is capable of holding 550,000 gallons. A new reservoir is in course of construction at Portland which is to have a capacity of 600,000 gallons. The water is delivered from the Upwey reservoir through a 10-inch trunk main at a pressure of from 150 to 225 pounds per

square inch, a pressure which is found to be sufficient for fire-extinguishing purposes and thus to render the service of a fire-engine superfluous. According to the late Sir Edward Frankland, the water possesses an extremely high degree of organic purity and is of excellent quality for dietetic use. The Urban District Council of Portland, its engineer, and others may be congratulated upon having undertaken a work which has been thoroughly done and is well calculated to secure for the town the highest possible sanitary conditions and a satisfactory health return.

GUY'S HOSPITAL.

ON Wednesday, Jan. 15th, there will be held at the Mansion House, under the presidency of the Lord Mayor, a meeting in support of the appeal on behalf of Guy's Hospital. There is no need for us to emphasise the good work done by Guy's Hospital, but, like nearly every other charitable institution in the kingdom, it is sorely pressed for funds. The very name "Mansion House" is synonymous with the word "alms" and we earnestly wish the meeting every success.

THE SCHOTT TREATMENT OF CHRONIC CARDIAC DISEASE.

WE have received a copy of a pamphlet entitled "Personal Observations and Comments on Bad-Nauheim and the Schott Treatment," written by Dr. C. Turner of Butte City, Montana. The writer states that he made a prolonged stay at Bad-Nauheim and minutely studied the methods of treatment adopted at that resort. In this pamphlet Dr. Turner makes very serious charges against the professional ability and conduct of Professor Schott who holds a high place among the physicians of Bad-Nauheim. We understand that this pamphlet has been widely distributed and we think that Professor Schott should, in justice to himself and the many English physicians who send patients to Bad-Nauheim to be placed under his care, at once take steps to challenge, and we feel sure to refute, the grave professional charges which are brought against him.

SANITATION IN INDIA.

THE principal article in the December number of the *Indian Magazine* consists of an address delivered on Nov. 25th, 1901, in the Jehanghir Hall of the Imperial Institute in London by Dr. Mohan Lal Dhingra, many of whose hearers were well acquainted with the conditions he touched upon, as the meeting was held under the auspices of the National Indian Association, and Sir George M. Birdwood, K.C.I.E., presided. Dr. Dhingra described his address as a humble attempt to claim for sanitation a place in the consideration of his countrymen and the Indian Government. He believed that the time had now come for the enactment of special sanitary legislation. In India it was practically impossible to control the numerous sources of water-supply, each house often having its own well, but if every town were provided with waterworks the people would soon take to this innovation and wells would fall into disfavour. Until this could be done wells should be placed under the control of municipalities with powers to enforce the roofing-in of wells and the protection of them all round with masonry. There was, he knew, a difference of opinion as to whether the populations of India were enlightened sufficiently for the introduction of such measures, but there could be no difference of opinion as to the necessity for an efficient sanitary service, and the first step in this direction would evidently be the appointment of a health officer for every important town. He hoped that the time was not far distant when special schools would be opened for the training of sanitary inspectors, and when the Indian universities would grant minor sanitary diplomas. In the ensuing discussion Sir George Birdwood said that Dr. Dhingra's proposals would involve heavy taxation and would have to be enforced by penalties. In the prevention and cure of disease sanitary precautions and medical skill did not count for so much as the constitution of the individuals concerned, their habits, whether temperate or not, and their domestic and personal cleanliness. He thought that enthusiastic public health officers like Dr. Dhingra would do much more in support of village and municipal sanitation in India by appealing to the authority of the Code of Manu and similar law-books than by invoking the coercive interference of the State. He also related the case of a non-commissioned officer in an Indian regiment who had been under orthodox treatment for malaria and was apparently dying, but made a marvellous recovery after perspiration was induced by Brahminical incantations.

THE MEDICAL DIRECTORY.

THE Medical Directory for 1902 has made its appearance promptly during the first days of the new year, and the publishers are to be congratulated upon their punctuality, which nothing short of a fire—as occurred two years ago—is known to disturb. The total number of practitioners for 1902 is 36,788, an increase of 434 over the total of 1901, which was 36,354. There are 6292 names on the London list, and 16,232 on the English provincial list. Scotland possesses 3645 medical men, as against 3569 in 1901, being an increase of 76; Ireland possesses 2587 medical men, as against 2575 in 1901, being an increase of 12; and Wales possesses 1183 medical men, as against 1165 in 1901, being an increase of 18. The lists of registered medical practitioners abroad, and of members of the Naval, military, and Indian medical services also both show a small increase upon the numbers of last year. The foreign and colonial names in 1901 numbered 3910, and this year number 3952, or an increase of 42; the members of the services in 1901 numbered 2798, and this year number 2886, or an increase of 88. The profession would seem, therefore, to have expanded evenly in all directions, and not in a greater degree than the increase in population ought to determine. The introductory article on the Principal Laws Affecting the Medical Profession, originally written by the late Mr. R. G. Glenn, is edited and revised this year by Mr. E. A. Armstrong. This article is not the least valuable part of an excellent book of reference, and we often have occasion to refer our readers to it.

THE CONTROL OF PHTHISIS IN THE ROYAL BOROUGH OF KENSINGTON.

AS we foreshadowed in a leading article on the results of the British Congress on Tuberculosis, the several expressions of opinion which were then focussed in the shape of resolutions are already beginning to bear fruit. In London the first sheaves of the harvest are being gathered in by the Royal Borough of Kensington, and there is little doubt but that ere long other of our new boroughs will take action. The Sanitary Committee of Kensington has proposed, and the council has adopted the proposal, that cases of phthisis attended with expectoration should be notifiable, and consequently the medical practitioners of this wealthy and important district have been invited to notify such cases, the usual fee being paid for each case. The council has moreover arranged with the Jenner Institute for the bacteriological examination of sputum suspected to be tuberculous. On receipt of a notification the medical officer of health will determine whether or not the circumstances call for a visit from the sanitary staff, and we are glad to note that in this matter every effort will be made to coöperate with the attending practitioner. Rooms infected by tuberculous patients will be disinfected free of charge in all cases

where death has resulted or where removal has taken place. Dr. T. Orme Dudfield points out in his circular letter addressed to all medical practitioners in Kensington that notification is especially necessary where good may be expected to accrue to the public therefrom. In addition to these precautions the leaflets of advice on the lines of those drawn up by the National Association for the Prevention of Consumption are being distributed, and Dr. Dudfield is careful to accentuate the importance of *wet* cleansing in place of the dry and dust-disturbing methods usually employed. This action on the part of Kensington, upon which Dr. Dudfield is to be cordially congratulated, emphasises the wisdom of the resolution on notification which was passed in the State Section of the British Congress on Tuberculosis, and subsequently confirmed by the Congress as a whole. There were some ardent spirits then present who would gladly have seen compulsory notification advocated, but in a matter of such far-reaching consequences as this, where the goodwill of the medical profession and of the public is essential to success, we are strongly in favour of going slowly, and for this reason we view with satisfaction the reasonableness of the Kensington programme.

THE DEPARTMENT OF PUBLIC HEALTH FOR NEW SOUTH WALES.

WE have received a copy of a report of the Board of Health for New South Wales for 1898. The report is dated June 9th, 1900, and although it has therefore reached us at a rather late date the matter which it contains is none the less interesting. The usual vital statistics and the prevalence of the specific fevers call for no special comment. The work emanating from the biological laboratory, however, is well worth notice on account of the reports which are given of certain pathological conditions found in animals. For instance, there is a "Pathological Note on a Form of Blindness in Horses." This disease appeared amongst horses in the Darling river districts. When first affected the animals only showed defective vision in dim lights. Horses whose sight seemed good in bright daylight were noticed to shy and to stumble in the evening after sundown. Later the sight became bad even in the daytime; the horses advanced cautiously with tremulous limbs and appeared as if frightened. No cases of total blindness were reported and the animals generally recovered after some lapse of time. There was no external sign of disease of the eye. Except for the defective vision the animals appeared to be in good health. On examination of specimens of eyes sent to the laboratory the periocular connective tissue and the muscles were normal, and the bulbar conjunctiva and cornea were also normal. Mesial sections showed no abnormality of the coats of the eyeball or dioptric media. Microscopical sections were made and transverse and longitudinal sections of the optic nerves showed fibrosis and atrophy of the nerve fibres. Individual nerve fibres of a bundle were atrophied, refused to take the stains, showed breaking-up of the myelin sheath into droplets, and granularity and interruption of the axis cylinders. Amongst other subjects dealt with in this part of the report are a "Preliminary Communication on the Etiology of Lymphadenitis in Sheep," "Observations on Epizootic Ophthalmia in Cattle," and the "Pathogenic Characters of Bacillus Typhi Murium." In an appendix to the report are some observations on the more common specific fevers: diphtheria, scarlet fever, and typhoid fever. A brief summary is given, in popular phraseology, of the nature of each disease, how infection may be spread, and the earlier signs of the disease. Directions are then given as to the precautions which should be taken to avoid infection. We recommend a perusal of these pages to our sanitary authorities as examples of leaflets which might be reprinted and widely distributed in times of epidemics. Unless a certain amount of education in these matters is afforded to the public the prevention of the spread of infection is rendered most difficult.

SMALL-POX IN LONDON.

THE number of cases of small-pox in London increases day by day. On Saturday, Jan. 4th, there were 37 fresh cases notified and removed, on Sunday the 5th there were 33 fresh cases, on Monday the 6th there were 60 fresh cases, on Tuesday the 7th there were 53 fresh cases, and on Wednesday the 8th there were 33 fresh cases.

THE DISTRIBUTION OF PLAGUE.

As regards Egypt, during the week ending Dec. 22nd, 1901, no case of plague has been reported throughout Egypt, and the only case remaining under treatment, isolated at Ziftah on Dec. 7th, was discharged from the hospital as cured on Dec. 22nd. As regards the Mauritius, a telegram from the Governor received at the Colonial Office on Jan. 3rd states that for the week ending Jan. 2nd there were 34 cases of plague, of which 23 were fatal.

METROPOLITAN HOSPITAL SUNDAY FUND.

AT a meeting of the Metropolitan Hospital Sunday Fund held at the Mansion House on Jan. 7th under the presidency of the Lord Mayor, the Earl of Stamford was elected a member of the Committee of Distribution in the place of Mr. Lidderdale who retires in consequence of ill-health, and the Rev. C. H. Grundy was elected a member of the General Purposes Committee in the room of Sir Trevor Lawrence. Mr. R. B. Martin, M.P., and Sir Edmund Hay Currie were re-elected honorary secretaries and Mr. Henry N. Custance secretary.

AT the meeting of the Royal Medical and Chirurgical Society to be held on Tuesday, Jan. 14th, the adjourned discussion of Dr. Sydney Monckton Copeman's paper on "Modern Methods of Vaccination and their Scientific Basis" will be opened by Dr. T. D. Acland. Amongst others who will take part are Dr. Sidney Coupland, Dr. Louis Parkes, and Professor Sims Woodhead. Dr. Copeman's remarks will be illustrated by lantern slides to be shown on Zeiss's epidiascope.

THE annual general meeting of the Harveian Society of London will be held at the Stafford Rooms, Titchborne-street, Edgware-road, W., on Thursday, Jan. 16th, at 8 P.M. The President, Dr. D. B. Lees, will deliver an address and the officers for the year will be elected. The meeting will be followed by a conversazione, at which will be shown illustrations of colour photography and a collection of British butterflies and moths by Mr. H. C. Phillips.

SIR W. O. DALGLEISH has offered to provide £5000 for building the new medical school for University College, Dundee and St Andrews University, and an additional sum of £5000 towards the extinction of the debt on the college. This last-named sum is offered on the condition that the balance of the debt—£7500—is forthcoming in a reasonable time.

WE regret to learn that on Sunday, Jan. 5th, Professor Virchow slipped in alighting from a tram-car and injured his hip. Everyone will wish the eminent professor as speedy a recovery as is compatible with his advanced years.

IT is announced that the donor of the sum of £200,000 for the King's Sanatorium is Sir Edward Cassel, K.C.M.G. He is a well-known financier who was one of the pioneers in the development of modern Egypt.

A DECADE OF PUBLIC HEALTH WORK IN THE ADMINISTRATIVE COUNTY OF LONDON.

I.

WE have received from the medical officer of health of the administrative county of London a copy of his ninth annual report, which contains, in addition to an elaborate set of statistical tables with appropriate comments relating to the year 1900, a carefully written and most interesting history of sanitary administration in the metropolis during the first complete decade of the County Council's existence—a period which corresponds with the last 10 years of the nineteenth century.

Were we writing for Londoners alone we should at once proceed with our notice of this report, but inasmuch as so many of our readers reside outside the metropolitan area, and are consequently less familiar than ourselves with sanitary progress in London, we think it well to preface our review of the document before us with the following explanatory remarks.

The London County Council was constituted by Act of Parliament in the year 1888, and under the guidance of an illustrious chairman the first elected members of that body promptly set themselves to lay the foundation of that vast administrative system which has its present centre at Spring-gardens, and which ever since that year they have incessantly laboured to perfect for the benefit of their fellow-citizens.

At this stage it will be useful to recall the fact that up to the year 1888 the sanitary government of London had been distributed among 43 vestries, each of which exercised its functions (or refused to exercise them) according to its own will, exclusively and without regard to the welfare of adjoining districts and, indeed, without regard to the general welfare of the metropolis. Consequently, epidemics were free to spread from one metropolitan district to another simply from lack of suitable coördinating and supervisory machinery such as it is the principal function of a county authority to supply. Although for certain purposes of self-government London is subdivided under many independent authorities, nevertheless it is obvious that from a public health standpoint it must be regarded as one vast community, no part of which can suffer, either from epidemic visitation or from sanitary shortcomings, without imminent danger to all its other parts.

From the nature of the case it will readily be understood that many important preliminaries had to be arranged before the County Council could with propriety address itself to the formation of a public health department which should fully satisfy the requirements of London. For it is obvious that in order to meet such requirements a central health department must be so constituted that by successive developments it may be adapted to supervise, and where necessary to control, the sanitary functions of the various local bodies within its jurisdiction as supreme authority. Accordingly it was not until late in the year 1889 that the County Council took its first and most important step in this direction by appointing a superintendent medical officer of health.

On his appointment Mr. Shirley F. Murphy was unprovided either with office accommodation or with clerical staff. Perhaps fortunately for him, he was left to construct the new department mainly according to his own judgment, the necessary medical and clerical assistants and other requisites for the conduct of business being furnished at his special request. From the first his constant care has been to cultivate friendly relations with the local medical officers in charge of the 43 districts of the county, and by degrees he has built up what is practically an intelligence department or central bureau to which communications may be addressed by his local medical colleagues, and from which they may derive expert advice or assistance in cases of difficulty or doubt.

It is only necessary to refer to the interesting series of reports already issued from Spring-gardens in order to show how completely Mr. Shirley Murphy has succeeded in his projects, as well as to indicate the thoroughly practical character of the work which is being done in connexion with the central bureau by the county medical officer of health and his able staff of professional assistants.

Coming now to an examination of Mr. Shirley Murphy's annual report for 1900, we find that as it is the latest so also it is in many respects the most interesting of the series of which it forms the ninth number. That this should be so is not surprising when we reflect that it treats of the health and sanitary condition of the largest urban community in the world—not for a single year only but for an entire decennium. The administrative county of London is not only the largest; it is likewise, from a sanitary standpoint, the most perfectly equipped urban community of which we have knowledge. For more than 10 years past it has enjoyed the protection of compulsory powers for the notification of infectious disease supplemented by a very complete system of hospital provision for the infectious sick. The arrangements for the isolation of small-pox are perhaps the most perfect at present existing within the British isles, for, instead of being treated in hospitals where they may readily become a source of danger to others, the small-pox patients are removed to hospital ships moored in the estuary of the Thames and at a safe distance from human habitations. London is divided into a large number of sanitary areas, each possessing its own medical officer of health and a complete sanitary staff, and so great is the importance which now attaches to accuracy of statistical method that for 10 years past every death occurring in a hospital, either in London or in a Metropolitan Asylums Board establishment in the suburbs, has been referred in the registers to the area in which the patient or inmate originally resided. Mr. Shirley Murphy therefore enjoys exceptional advantages for the preparation of trustworthy vital statistics and for the compilation of sanitary reports, and we think that he has availed himself of those advantages very fully.

In the present report the annual rates of birth, marriage, sickness, and death for each year of the last decennium are set forth in great detail, the rates having been carefully corrected by the help of the census returns of population recently published. As in the earlier reports, so in the present, the statistical tables relate to the old sanitary districts of London. As a matter of fact, these districts ceased to exist and were replaced by the new metropolitan boroughs on Nov. 9th, 1900, but for the purposes of this report it was obviously impracticable to do otherwise than assume that the old sanitary areas had continued in existence up to the end of the year.

In the county of London as a whole the rate of increase of the population has rapidly declined during the last 30 years; in the decennium 1871–80 the rate of increase had been 17·4 per cent., in the following decennium it fell to 10·4 per cent., and in the decennium just completed the increase did not exceed 7·4 per cent.

The space at our disposal will not admit of our following Mr. Shirley Murphy in his detailed examination of the metropolitan *general* death-rates for the year 1900; but we may note that the mean mortality of London during the decennium just completed was below that of 1881–90 at all periods of life from infancy to old age. Mr. Shirley Murphy reproduces a table, given in previous reports, by which he shows the mean annual number of deaths occurring in 1891–1900, as compared with the annual number that would have occurred had the death-rates of the previous decennium been maintained throughout 1891–1900. The number of lives gained and the number of lives lost at the several ages in the later period are also shown. This gain or loss is expressed in terms of "life capital," the figures being obtained by applying the "mean future life time" values, as ascertained from a London life table, to the number of lives gained or lost at each age-group. According to this calculation we find that in the 10 years 1891–1900, as compared with the previous decennium, there accrued a saving of 3664 lives per annum, representing an annual salvage of 118,483 years of life capital. It is, however, important to observe that this reduction in the mortality has by no means been manifested in the death-rate from all causes alike. Thus, for example, there has been in the later decennium, as compared with the earlier, a marked *increase* in the death rate from diphtheria, cancer, and influenza, and a slight increase in the death-rates from a few other causes. On the other hand, there has been marked *reduction* in the mortality from phthisis and also from non-tuberculous respiratory diseases and diseases of the nervous system, as well as a less strongly marked decrease in the death-rates from several other causes. Perhaps the most important of these changes for

the worse is that which concerns that terrible malady cancer, the death-rate from which has increased during the last decennium by little less than 27 per cent. As His Majesty the King has publicly expressed a desire that the question of the causation of cancer should be investigated by competent persons, with a view, if possible, of checking its ravages, we can only express our astonishment that the Government has not as yet taken active steps with this object in view.

There is no single test of the healthiness of a community which is so generally trustworthy as that furnished by the rate of infantile mortality—i.e., the death-rate of children under one year of age in each 1000 registered births. Infant life is peculiarly sensitive to the sort of insanitary conditions which generally abound in great centres of population. It is accordingly satisfactory to find from the present report that throughout the decennium ending with the year 1900 London experienced the lowest infantile mortality of any of the principal English towns save one—viz., Bristol, which has enjoyed an enviable notoriety in regard to low infant mortality for many past years. During the year 1900 the eastern group of metropolitan districts suffered the highest infantile mortality—namely, 175 per 1000 births; the northern group experienced the lowest, 145 per 1000; whilst the southern, the central, and the western groups experienced a rate of 158 per 1000. Among individual sanitary districts Holborn showed the highest rate (240 per 1000) and Hampstead the lowest rate—viz., 100.

THE SANITARY CONDITION OF LEICESTER INFIRMARY.

As the result of a joint conference between the weekly board and the honorary medical staff of the Leicester Infirmary with respect to the recommendations of Professor W. H. Corfield as to the sanitary condition of the institution a report has just been issued of the decisions arrived at and it will be presented at the quarterly meeting of the governors to be held next week. The report candidly admits that the central block of the infirmary is old and structurally unsuitable for hospital wards, but urges that it is capable of conversion for administrative purposes. In regard to the wards the members of the conference agree with Professor Corfield that "certain re-arrangements and improvements are required," and that "the building would be greatly improved for the purposes of a hospital if it were divided into sections by means of cross-ventilated lobbies, as suggested in the plan prepared by Mr. Pick." The report states that the members of the conference agree with Professor Corfield's recommendations in reference to the nurses' bedrooms—that the nurses should be provided with a separate building—"as," adds the report, "entire separation from the wards must be beneficial to the health of the nurses." The report also supports Professor Corfield's recommendations for separate accommodation for infectious cases and for the out-patient department. In regard to the latter Professor Corfield stated that a separate building for out-patients "would considerably lessen the introduction of infection into the infirmary." With regard to the infirmary building in general Professor Corfield reported that "the floors are in most cases old and much worn" and that they required to be replaced with new ones, or covered with a parquet flooring, but the report of the conference points out that although in many parts of the house the floors require renewal none of the wooden floors are older than 1862, except possibly in the central block. Dealing with the question of the sanitary annexes and offices the report states that "a personal inspection of the various annexes and offices throughout the building shows that with the exception of St. Mary's Ward all the water-closets and slop-sinks are either new or have been renewed within the last 10 years. In most cases the iron and lead sinks in the ward sculleries have been replaced by sanitary earthenware ones, and the old baths have been replaced by new ones and others have been added. The particular pattern of the water-closet apparatus now in use has been called in question in the reports, but expert opinion appears to be divided as to the relative superiority of 'wash-downs' and 'wash-outs,' some modern institutions preferring one and some the other. In each case much depends upon their being properly fixed and receiving systematic attention. The same remark applies to the question of 'tip-up' wash-basins." The "borough pattern" gully-traps, largely in use at the infirmary, are strongly disapproved of by Professor Corfield, but, adds the report, they have some distinct advantages for hospital purposes. Coming to the most important part of Professor Corfield's report—the state of the drains of the infirmary—the report says that "the drains, both internal and external, have been carefully tested, and in several cases faults have been discovered in the latter, and later investigation has disclosed that some of these faults were due to imperfect workmanship in fitting the drain-pipes to the iron outlets of the traps, thus allowing the escape of smells not through, but by the side of, the traps. There can be little doubt that in this way the atmosphere of the wards has from time to time been vitiated. The upper length of the drain most responsible for this state of things has already been entirely removed. Cases of imperfect connexion between iron and earthenware pipes were found in two instances on the western side of the building, which may have contaminated the hot-water duct near the nurses' dining-room windows. The escape from these faulty connexions has doubtless been injurious to the sanitary condition of the house, and instructions have been given to test, and if necessary to re-set, the whole of the gully-traps around the infirmary, and also to put additional ventilation pipes on the eastern block as recommended by Professor Corfield, and to make any other minor alterations in the existing upper connecting drain-pipes which may be thought advisable. The gully-traps have been regularly examined and cleansed and their satisfactory condition has been reported on from time to time at the weekly meetings. The drains have been systematically and thoroughly flushed. Those in immediate connexion with the buildings are receiving, and will continue to receive, careful attention. Sufficient cause has not been shown to justify Professor Corfield's opinion that 'the whole of the present drainage arrangements must be condemned and removed entirely and new drains laid on concrete ..... preferably throughout of heavy iron pipes, coated inside and outside with Dr. Angus Smith's solution and having the joints caulked with metallic lead.' This could only be carried out at a great expense which urgent need alone would justify." The concluding portion of the report of the joint conference sets out in brief the recommendations made by Professor Corfield and states that although doubtless many alterations and additions are desirable the weekly board and the governors will have to consider what is most urgent and really practicable, for to carry out the recommendations enumerated would entail an expenditure far in excess of any funds at present at disposal. The surgical staff having called attention to the utter inadequacy of the present operating theatre and the great difficulties under which the important and critical work of that department is carried on, the weekly board have ordered plans to be prepared for a new surgical wing, to comprise all the arrangements and appliances that the experience of the most modern hospitals has proved to be valuable. These plans have been adopted and the work is now making rapid progress. The new wing will contain two operating theatres (with anæsthetic, sterilising, and nurses' rooms), a waiting hall, a new surgery and two examination rooms adjoining, a dispensary and ample store-room, a room for special night cases, a sitting-room and bedrooms for the house surgeon and resident surgical staff, an entrance hall, a clerk's office, a porter's room, and sanitary and other requisite accommodation. The cost of the new wing will be about £12,000.

ASYLUM REPORTS.

The Retreat, York (Annual Report for 1900).—The York Retreat was founded early in the nineteenth century by the Society of Friends for the care and treatment of insane patients and is one of the oldest institutions for the treatment of mental disease in England. The average number of patients resident during the year was 162 and comprised 60 males and 102 females. The admissions during the year amounted to 39—viz., 17 males and 22 females. Of these, 31 were first admissions. Dr. Bedford Pierce, the medical superintendent, states in his report that from a financial

point of view the year was less satisfactory than usual on account of a considerable increase of expenditure. The income was larger than in any previous year and there had been no reduction in the amount of charitable assistance received. The increased expenditure arose from various causes, the principal being an increase in household expenses, the high price of coal, a large addition to the assessment, and also the carrying out of many improvements. 16 of the patients admitted were deemed to be incurable, being chronic cases of long standing. During the year 18 patients were discharged as recovered, or 11·1 per cent. of the average number resident. "The length of residence of these patients had varied from three weeks in one case to 17 years in another. The latter was the case of a gentleman suffering from melancholia who for a large part of the time rarely spoke ..... and seemed to take no interest in his surroundings. Such occurrences of recovery after long periods of time are very encouraging." The deaths during the year amounted to 10, or 6·2 per cent. of the average number resident. The average age at death was nearly 75 years and the average residence in the Retreat was 15 years. One lady was 94 years of age and had been nearly 46 years in the Retreat. Of the deaths one each was due to phthisis, ovarian disease, and bronchitis, two each to cardiac failure and cerebral hæmorrhage, and three to senile decay. 13 voluntary boarders have been admitted during the year. One of them who was allowed to go out on parole attempted to drown himself in the river but was rescued by a policeman. He was subsequently placed under certificates. A newly admitted and violent patient secreted a match in the lining of his coat and when in the padded room he set fire to the cushions. He had the presence of mind to lie full length on the ground and to cover himself with mattresses and rugs and to breathe the fresh air as it entered under the door. The fire was speedily noticed and extinguished and the patient was rescued without having sustained any harm. The general health of the institution has been good except for one case of typhoid fever—affecting a nurse who, however, made a satisfactory recovery. Everything possible has been done to induce patients to occupy themselves usefully. "Patients doing regular work in the garden are paid by the hour, an arrangement which answers well. One patient earns sufficient to pay for his maintenance, whilst others keep themselves in clothes and pocket money." The Commissioners in Lunacy state in their report that the patients appeared to be well cared for and comfortable, and that the rooms and wards were in very good order, well aired, and comfortable. The committee of management state in their report that the sum of £130 has been received in donations during the year, and also a payment of £993, the final balance of a bequest under the will of the late Clement Jackson of East Hoe, Cornwall.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

FROM the commencement of the current year the Registrar-General's weekly returns will relate to the 75 large English towns which at the recent census contained populations exceeding 50,000. The aggregate population of these towns in the middle of 1902 is estimated to be 14,800,427. During the week ending Jan. 4th, 9695 births and 5707 deaths were registered in these towns, the deaths being equal to an annual rate of 20·1 per 1000 of the population. In London the death-rate was 20·6 per 1000, while it averaged 19·9 in the 74 other large towns. The lowest death-rates in these towns were 5·6 in Handsworth, 9·7 in Grimsby, 9·8 in Newport (Mon.), 10·2 in Coventry, 11·2 in West Hartlepool, 11·3 in Walthamstow, and 12·1 in Leyton; the highest rates were 24·3 in Brighton, 24·4 in York, 24·9 in Norwich, 26·4 in Sunderland, 27·3 in Merthyr Tydfil, and 28·1 in Tynemouth. The 5707 deaths in these towns included 510 which were referred to the principal zymotic diseases; of these, 157 resulted from measles, 83 from diphtheria, 80 from whooping-cough, 66 from scarlet fever, 51 from diarrhœa, 43 from "fever" (principally enteric), and 30 from small-pox. In Croydon, Tottenham, Walthamstow, Southampton, Nottingham, and 11 other smaller towns, no death from any of these diseases was registered last week; the highest zymotic death-rates were recorded in Hanley, Aston Manor, Preston, Rotherham, Stockton-on-Tees, and South Shields. The greatest proportional mortality from measles occurred in Norwich, Aston Manor, Preston, Rotherham, and South Shields; from scarlet fever in Birmingham, St. Helens, Middlesbrough, and South Shields; from diphtheria in Willesden, Reading, Hanley, and Middlesbrough; from whooping-cough in Birmingham, Leicester, Burnley, and Stockton-on-Tees; from "fever" in Great Yarmouth, Rochdale, Middlesbrough, and Stockton-on-Tees; and from diarrhœa in Tynemouth. 28 fatal cases of small-pox occurred in London, one in West Ham, and one in East Ham, but not one in any other of the 75 large towns. There were 754 cases of small-pox under treatment in the Metropolitan Asylums hospitals on Saturday, Jan. 4th, against 506, 538, and 666 at the end of the three preceding weeks; 261 new cases were admitted during the week, against 134, 161, and 225 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 3033 and 3137 on the two preceding Saturdays, had declined again to 2987 on Jan. 4th; 313 new cases were admitted during the week, against 331, 247, and 263 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 427, 393, and 425 in the three preceding weeks, further rose last week to 452, but were 171 below the corrected average number. The causes of 66, or 1·3 per cent., of the deaths in the 75 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Portsmouth, Bristol, Manchester, Bradford, Leeds, and 38 other smaller towns; the largest proportions of uncertified deaths were registered in Ipswich, Birmingham, Liverpool, and Sunderland.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 20·7, 21·5, and 22·6 per 1000 in the three preceding weeks, further rose to 23·2 per 1000 during the week ending Jan. 4th, and was 3·1 per 1000 above the mean rate during the same period in the 75 large English towns. The rates in the eight Scotch towns ranged from 14·6 in Leith and 23·0 in Edinburgh to 25·0 in Perth and 27·2 in Greenock. The 750 deaths in these towns included 30 which were referred to measles, 12 to diarrhœa, 12 to whooping-cough, seven to "fever," five to diphtheria, and four to scarlet fever. In all 70 deaths resulted from these principal zymotic diseases last week, against 69 and 86 in the two preceding weeks. These 70 deaths were equal to an annual rate of 2·2 per 1000, which was 0·4 above the mean rate last week from the same diseases in the 75 large English towns. The fatal cases of measles, which had been 28, 30, and 36 in the three preceding weeks, declined again last week to 30, of which 24 were registered in Glasgow, three in Dundee, and two in Greenock. The deaths from diarrhœa, which had been 15, 17, and 23 in the three preceding weeks, declined again to 12 last week, and included four in Glasgow, four in Dundee, and two in Paisley. The fatal cases of whooping-cough, which had been 10 and seven in the two preceding weeks, rose again last week to 12, of which 10 occurred in Glasgow. The deaths referred to different forms of "fever," which had been 11, seven, and five in the three preceding weeks, rose again to seven last week, and included five in Glasgow and two in Paisley. The fatal cases of diphtheria, which had been three and eight in the two preceding weeks, declined again last week to five, of which two were registered in Edinburgh and two in Dundee. The deaths from scarlet fever, which had been two and seven in the three preceding weeks, declined again to four last week, and included two in Glasgow and two in Greenock. The deaths referred to diseases of the respiratory organs in these towns, which had been 188 and 166 in the two preceding weeks, increased last week to 182, and were 77 in excess of the number in the corresponding period of last year. The causes of 41, or more than 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 17·9, 25·9, and 26·8 per 1000 in the three preceding weeks, further rose to 29·4 per 1000 during the week ending Jan. 4th. During the past four weeks the death-rate has averaged 25·0 per 1000, the

rates during the same period being 19·6 in London and 21·1 in Edinburgh. The 214 deaths of persons belonging to Dublin registered during the week under notice were 21 in excess of the number in the preceding week, and included nine which were referred to the principal zymotic diseases, against 15 and 10 in the two preceding weeks; of these three resulted from diphtheria, three from diarrhœa, two from "fever," and one from whooping-cough. These nine deaths were equal to an annual rate of 1·2 per 1000, the zymotic death-rate during the same period being 1·8 in London and 0·3 in Edinburgh. The deaths from diphtheria, which had been three and two in the two preceding weeks, rose again last week to three; the fatal cases of diarrhœa corresponded with the number in the preceding week; while the deaths referred to different forms of "fever," which had been four and five in the two preceding weeks, declined last week to two. The 214 deaths in Dublin during the week under notice included 33 of children under one year of age and 65 of persons aged upwards of 60 years; the deaths of infants showed a marked increase upon the number in the preceding week, and those of elderly persons were slightly in excess. Nine inquest cases and six deaths from violence were registered; and 65, or nearly one-third, of the deaths occurred in public institutions. The causes of 13, or more than 6 per cent., of the deaths in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeon E. W. Luther to the *Majestic*. Surgeons: J. R. Muir to the *Vivid* for dental duties; J. M. H. Conway to the *Jupiter*; W. B. Maurice to Haslar Hospital; H. C. Adams to the *Resolution*: M. L. M. Vaudin to the *Espiegle*; and W. Jackson to the *Wildfire* for the *Immortalité* and Naval Barracks.

ARMY MEDICAL SERVICE.

Lieutenant-Colonel A. Keogh, C.B., R.A.M.C., to be Deputy Director-General and to have the temporary rank of Surgeon-General whilst so employed, vice Surgeon-General H. S. Muir, C.B., whose period of service in that appointment has expired. Dated Jan. 1st, 1902.

Colonel Sir T. J. Gallwey, Principal Medical Officer of the Home District, has been selected for appointment as Principal Medical Officer in India, with the rank of Surgeon-General, succeeding Surgeon-General W. Taylor, appointed Director-General of the Army Medical Service.

ROYAL ARMY MEDICAL CORPS.

Temporary Major C. Stonham, C.M.G., Surgeon-Captain, Middlesex Imperial Yeomanry, is granted, on relinquishing the appointment of Officer in Command and Chief Surgeon, Imperial Yeomanry Field Hospital, the honorary rank of Major in the Army, with permission to wear the uniform of the corps. Dated May 2nd, 1901.

Surgeon-Captain C. N. Lee, A.M.R., assumes medical charge of troops, &c., inner defences (Inchgarvie, Dalmeny, Carlingnose, and coastguard batteries). Lieutenant R. I. Cowley is posted to the Mandalay District for duty in the Station Hospital, Shwebo. Lieutenant-Colonel W. L. Lane, in medical charge of the Station Hospital at Ahmednagar, and Lieutenant-Colonel G. E. Weston, in medical charge of the Station Hospital at Nusseerabad, hold themselves in readiness to proceed to England. Lieutenant-Colonel F. P. Nichols, doing duty at the Station Hospital, Mandalay, is ordered to assume the medical charge of the Station Hospital, Shwebo, vice Major W. S. Boles, who proceeds to Mandalay. Captain Hall assumes charge of the Station Hospital at Calicut, vice Lieutenant-Colonel J. Maconachie, proceeding to Nusseerabad, in the Bombay Command, for duty.

The Government of India has sanctioned house rent for all officers of the Royal Army Medical Corps of the establishment authorised for employment in Station Hospitals at the Presidency towns of Bombay, Madras, and Calcutta, provided such officers are not supplied with public quarters.

IMPERIAL YEOMANRY (IN SOUTH AFRICA).

The undermentioned officers having relinquished their commissions are granted honorary rank in the Army as follows, with permission to wear the uniform of the corps:—

1st Battalion: Temporary Captain E. T. Shorland, Medical Officer, to be Honorary Captain. Dated April 9th, 1901.

10th Battalion: Temporary Captain E. Hopkinson, Medical Officer, to be Honorary Captain. Dated July 18th, 1901.

12th Battalion: Temporary Captain H. Manders, Medical Officer, to be Honorary Captain. Dated July 10th, 1901.

13th Battalion: Temporary Captain F. A. Hadley, Medical Officer, to be Honorary Captain. Dated June 2nd, 1901.

VOLUNTEER CORPS.

Artillery: 1st Berwick-on-Tweed: Surgeon-Lieutenant C. L. Fraser to be Surgeon-Captain. 1st Midlothian: Surgeon-Lieutenant A. A. S. Skirving, C.M.G., to be Surgeon-Captain. Supernumerary Surgeon-Lieutenant W. M. Taylor to be Surgeon-Lieutenant on the Establishment. 1st Newcastle-on-Tyne; Surgeon-Captain P. H. Watson resigns his commission. *Rifle:* 1st Volunteer Battalion the Cheshire Regiment: Surgeon-Lieutenant A. R. Wilson to be Surgeon-Captain. 1st Volunteer Battalion the Prince of Wales's Volunteers (South Lancashire Regiment): Surgeon-Lieutenant J. N. Patterson to be Surgeon-Captain. 7th (Clackmannan and Kinross) Volunteer Battalion Princess Louise's (Argyll and Sutherland Highlanders); Surgeon-Lieutenant S. Ferguson resigns his commission. 26th Middlesex (Cyclist): Surgeon-Lieutenant P. J. Edmunds to be Surgeon-Captain.

SOUTH AFRICAN WAR NOTES.

Lieutenant M. F. Foulds, R.A.M.C., recently reported dangerously wounded, has had his right leg amputated at the knee. The injury was received at Harrismith on Dec. 30th.

Civil Surgeons John Collett Osborne, John Wigglesworth, Harold Sidney Callum, and T. Parker have been discharged from hospital to duty.

NAVAL COURT-MARTIAL AT CHATHAM.

A court-martial was held on Jan. 3rd on board the *Forte*, at Chatham, for the trial of Fleet-Surgeon Robert William Anderson of the *Andromache*, in connexion with the illness and death of a stoker named George Belleney between Nov. 22nd and 25th, 1901. There were two charges: the first alleging negligence and want of due professional care, and the second alleging omission to comply with the regulations ordering the sick to be visited twice daily and oftener if necessary. The court found the charges proved and ordered the accused to be severely reprimanded and dismissed his ship. It appears that the stoker in question was admitted to the sick bay of the *Andromache* at North Shields on Nov. 23rd, with a history that he had been previously suffering for a few days from the symptoms of an ordinary cold. Shortly before his admission he had walked about five miles in the wet and cold. Pneumonia followed and death suddenly and unexpectedly occurred owing to heart failure. Fleet-Surgeon Anderson, who was on short leave at the time but occupying a house in the neighbourhood, was communicated with and saw the deceased, but it does not seem that he or the sick-bay attendant found any cause for apprehension in the patient's condition; indeed, it is stated that his temperature was normal. But the report in the *Times* of the proceedings of the court-martial is not such as to enable us to arrive at any definite opinion, for we are not told whether the patient's temperature remained normal throughout his illness, what was the rate of respiration, or whether the medical examination included any special physical examination of the chest. It seems clear, however, that the serious or urgent nature of the case was not suspected by those in the sick bay or in immediate attendance on the patient, and his illness, therefore, did not attract the attention which it would otherwise have done. Fleet-Surgeon Anderson, it is right to say, had always previously held a high character for his care and attention to the sick. We think that it is to be regretted that he did not proffer himself for examination on oath by the court.

HEALTH OF THE UNITED STATES NAVY DURING 1900.

The medical report on the state of the United States navy during the year 1900, drawn up by Dr. W. K. Van Reypen, Surgeon-General of the navy, is a voluminous work, including a great many reports presented by individual officers, and in the aggregate filling 328 closely printed pages. The health of the navy and marine corps for the calendar year 1900 was satisfactory. The average strength of the active list was 23,756, an increase of 2937 over the previous year. The total number of admissions to the sick-list for all causes was 18,936; of these, 15,829 were for disease and 3107 for

injury, giving a ratio per 1000 of strength of 688·9 and 135·2 respectively. The daily average of patients was 799·8 and the ratio per 1000 of strength 34·8, as compared with a daily average of 645·8 and a ratio per 1000 of 32·1 for 1899. The number of persons invalided from the service was 695, a ratio of 29·2 per 1000 of force, classified as 586 invalided for disease and 109 for injury. During the year there were 211 deaths, the death-rate per 1000 of force being for disease 5·01 and for injury 3·87, or a grand total of 8·88 per 1000. The admissions to the sick list during the year included 1699 cases of epidemic catarrh, 983 of malarial diseases, 963 of wounds, 902 of diarrhœal affections, 828 of rheumatic affections, 336 of dengue, 246 of alcoholism, 195 of dysentery, 175 of typhoid fever, 160 of measles, 132 of mumps, 128 of heat-stroke, 117 of pulmonary tuberculosis, 100 of organic heart disease, 99 of pneumonia, 40 of nephritis, 37 of rubella, 10 of small-pox, two of yellow fever, and one of bubonic plague. The returns of recruiting show that a total of 25,081 recruits were examined, of whom 9625, or 383·7 per 1000, were rejected for all causes, and 628, or 25·0 per 1000, were rejected for colour-blindness. A special appendix to the report, occupying 24 pages and drawn up by Dr. Presley M. Rixey, Medical Inspector, United States navy, is devoted to the case of the late President McKinley.

AFFAIRS IN SOUTH AFRICA.

The War Office return of the casualties in the Field Force in South Africa during the month of December, 1901, shows the total reduction of the military forces up to the end of that year through the war to have been 24,299, made up as follows: deaths in South Africa, 931 officers, 18,033 men; missing and prisoners, 442 officers and men; invalids sent home who have died, seven officers and 449 men; and invalids who have left the service as unfit, 4437. As regards deaths (exclusive of those who have died in captivity) described as killed in action or died from their wounds we find the numbers to be 630 officers and 6397=7027, as compared with 11,273 deaths from disease. The number of officers sent home as invalids amounts to 2664, and of men 61,666. Of these, a great majority have recovered and rejoined for duty; of the rest, 449 have died, 4437 have been discharged the service as unfit, and 862 are in hospital. As regards the purely military news it seems clear that De Wet had a strong force of excellent fighting material in his audacious and enterprising, as well as skilfully executed, attack on the British at Tweefontein. It was a disastrous attack as far as we were concerned and does not, we fear, say much for the alertness and foresight of the British force. The slanderous and unfounded charges against British officers and soldiers in the continental, and especially the German, press have naturally caused a good deal of indignation in this country.

DEATHS IN THE SERVICES.

Surgeon-Lieutenant-Colonel Henry Cramer Guinness, L.R.C.P., L.R.C.S. Irel., A.M.S. (retired), at his residence, Wellington Lodge, Cheltenham, on Jan. 2nd, in his sixty-fourth year. The deceased, who was the son of the late Dr. Arthur Guinness, took the qualifications of L.R.C.P. and L.R.C.S. Irel. in 1859. He entered the army as an assistant surgeon in 1859 and was promoted to the rank of surgeon in 1873, surgeon-major in 1875, and surgeon-lieutenant-colonel in 1879. The deceased officer retired from the army on half-pay in 1893.

Colonel Oswald Gillespie Wood, C.B., R.A.M.C., who is reported to have died on Jan. 3rd at Kroonstadt, where he was principal medical officer, was in his fifty-fifth year, and was appointed a lieutenant-colonel in the Royal Army Medical Corps in March, 1894, after about 20 years' previous army medical service. In 1882 he served with the first Egyptian expedition and was at Tel-el-Kebir; in 1889 he was senior medical officer with the British troops engaged in operations on the Nile; and in the present campaign he was for some time in charge of a general hospital before taking up the post which he last held. Colonel Wood's South African services have been mentioned in despatches and they obtained for him the C.B.

THE CHANGES IN OFFICERS' UNIFORM.

It seems an extraordinary thing that whenever an outcry rightly or wrongly is raised in this country in regard to the reform of the army, the War Office, or the Horse Guards authorities steps are taken, often without any apparent reason, to bring about, under a real or alleged idea of economy, some change of uniform or dress reform. There is no finality about anything and least of all about officers' uniform. The latest of the many regulations which have been issued on the subject will affect officers of the Royal Army Medical Corps in common with those of all other branches of the service. That the ultimate result of the new orders will be one of economy may be true, but that its immediate effect is to put officers to much expense in the meantime cannot be doubted and we hope that ample time may be given to allow of the present uniform being worn out instead of having to be cast aside as obsolete or not up to date. We may add that the new Army Order just published regarding the service dress of the army, which is a long and elaborate production, seems to be sensible and good and to have been carefully drawn up.

Captain Ernest Kinloch Johnstone, M.D., L.R.C.S. & P. Edin., lately assistant-surgeon, has been promoted to major and surgeon and is serving with the United States Army in the Philippines. He is acting as chief surgeon of the 3rd Military District, Northern Luzon.

Correspondence.

"Audi alteram partem."

INERT VACCINE LYMPH.

To the Editors of THE LANCET.

SIRS,—I have read with interest the letters which have recently appeared in your pages on the subject of inert vaccine lymph. Opinions appear to be divided on the subject, some of your correspondents suggesting that every practitioner should publish the results of his vaccinations and revaccinations, giving the source of the vaccine lymph employed; others incline to the view that the State alone should manufacture and distribute the glycerinated pulp; and others, again, would like to see a committee of experts appointed by the State to supervise private establishments and to lay down the best methods of preparation and preservation of vaccine. I do not believe that the remedy is to be found in any of these proposals and I shall indicate what I consider is the remedy further on. To make use of the publicity afforded by the journals for the purpose of calling attention to certain marks of vaccine which have given good results or none at all would, I submit, be illegal. Moreover, a particular institution may conceivably supply an excellent vaccine at one time and a very inferior one at another. A monopoly of vaccine by the State would be like the monopoly of matches in France, where it is a saying: "They won't light, they are Government matches." A monopoly of vaccine, indeed, would be a much more serious matter than a monopoly of matches. There must be a method of manufacturing matches which is invariably successful, whereas there is nothing of the kind for the manufacture of vaccine. If a match will not light it is due to a defect in the process of manufacture or exposure to damp. In respect of vaccine the procedure may have been faultless, the lymph may not have been exposed to too high a temperature (heat being for vaccine what damp is for matches), yet the results may be negative. It follows that if the State undertook the exclusive manufacture of vaccine it is quite possible—indeed, it has actually happened—that for some considerable time the State may find itself in the position of being unable to furnish a trustworthy vaccine. So long as the field is left open to private institutions England will never, during such period, be left destitute of vaccine, since even public vaccinators can obtain a supply from institutions which, at that particular period, are in possession of an active vaccine. The French Academy of Medicine supplies lymph gratis to all practitioners who apply for the same, yet many prefer to obtain their lymph from private establishments on account of the failures following the use of the Academy lymph. If the State monopolised the manufacture of vaccine lymph it ought logically to monopolise the manufacture of all serums and even of all drugs. The State would become manufacturer of chemical products, druggist, herbalist; it would supply the retail chemists who would themselves become servants of the State.

There is no obvious reason why medical men should not in their turn become administrative officers and be constrained to take the opinion of their hierarchical superiors on the applicability of a particular remedy to a particular disease. Following in the steps of medicine and pharmacy, industry

and commerce as a whole would pass into the hands of the State, an alternative which certainly offers one solution of the social problem but which would leave individual initiative out in the cold. I should certainly prefer supervision by the State, but such supervision would require to be exercised by thoroughly competent experts—that is to say, medical men who prepare their own vaccine. In such case would these medical men *qua* manufacturers of vaccine not in all probability display a tendency to believe that their own methods are the best and that all other procedures are necessarily inferior to their own? Obviously this suggestion is impracticable. In all establishments, whether public or private, in spite of every possible precaution, there are times and seasons at which the vaccine product is inert or comparatively inactive, the reason of which is still unknown. There are periods, indeed, when this sterility affects whole countries. I am in communication with a large number of vaccine institutes throughout Europe and can speak with authority on this point. We may therefore take it as proved that at certain times this or that institute will produce only inert lymph. A lymph which was originally very active may become inert in a very short space of time, while other specimens will retain their activity unimpaired for an indefinite period. The accuracy of this observation can be testified to by all directors of vaccine institutions. There is a third fact—viz., that lymph too freely diluted with glycerine or water loses its virulence. We are confronted, therefore, with three causes of inert vaccine: (1) defective virulence *ab origine*; (2) spontaneous loss of virulence after a short time; and (3) loss of virulence as the result of too free dilution.

Now for the remedies. It is indispensable in the first place that directors of vaccine institutes should test their glycerinated lymph. This test may be applied on the rabbit, the calf, or the child. The only real test is that on the child, because a vaccine which takes very well in the animal may fail in the child. Since vaccine, when first gathered, always contains a large number of micro-organisms, possibly pathogenic, it must be allowed to stand for some time in order to allow of the destruction of the greater part of these organisms. Vaccine a month old and free from injurious organisms must be inoculated by means of incisions of sufficient length and well separated so that the vaccinal vesicles may run a separate course at the site of each incision. The evolution of the vesicle must be inspected daily and it is on the third or fourth day (not the eighth) that one can form an opinion as to the value of the vaccine. If we make an incision one centimetre in length the vesicles at the end of the third day should be present in such abundance as to look like a single vesicle with straight edges following the line of incision. If the margins are irregular or dentated the vaccine is not of the first quality. If along the incision there are only one, two, or three isolated vesicles which do not become confluent for a day or two the vaccine is not active enough for use. When vaccine remains in stock for several months it is the duty of the director to test it from time to time, eliminating on each occasion all vaccine which shows itself inactive. By following this procedure the institutes will furnish vaccinators only with active lymph which will invariably give satisfactory results—i.e., 100 per cent. for vaccinations and 80 per cent. at least for revaccinations.

Loss of activity as the result of too free dilution is the least important because it can be made a rule never to mix with the pulp more than the quantity of glycerine absolutely necessary to render it fluid and to allow of its introduction into tubes. Glycerinated pulp ought always to be thick, and in no case should the proportion be exceeded of four parts of glycerine to one of pulp gathered by the curette without forceps—that is to say, not already diluted with blood serum. If all vaccine institutes follow the method which I have just described they will never supply vaccinators with inert lymph, though they themselves may now and again find themselves in possession of inert lymph and they may even have a run of bad luck in this direction. What, then, is the remedy? There are several, but I will limit myself to one—viz., never vaccinate the calf with fresh lymph, but use vaccine which has been in stock for two, three, or four months, the perfect virulence whereof has been ascertained by previous tests. If, in spite of this precaution, the desired result is not obtained recourse should be had to an institute which is furnishing an active lymph, and a series of calves vaccinated with this lymph after having tried it on a child. No attempt should be made to start the series with lymph of one's own preparation until one is sure that the bad period is at an end. The obligation to have occasional recourse to another institute is a strong argument against the proposed State monopoly, because should the State vaccine become inert it would perforce have to find an institute in a position to supply it with active lymph to start afresh with, and if the institutes in Europe were restricted to a few State institutes it might very well happen that they were all suffering from the same defect at the same time.

What would seem particularly desirable is the establishment of a closer relationship between all vaccine institutes in Europe, or even of the whole world, so that they may come to each other's assistance. I have endeavoured to establish some such intercommunication and I am pleased to say that my appeal has been favourably received by a certain number of institutes in England, Germany, Austria, Russia, Spain, Portugal, Switzerland, and France. I hope ultimately to succeed in forming a sort of syndicate of vaccine institutes. When I have attained that object the problem will have found its solution and in the event of a lack of virulence the institutes will know where to put their hands on the supply of active pulp or lymph which they require.

I am, Sirs, yours faithfully,

EDMOND CHAUMIER, M.D. Paris.

FIRST AID FOR PRIMARY HÆMORRHAGE: THE WRONG TEACHING GIVEN TO AMBULANCE CLASSES.

To the Editors of THE LANCET.

SIRS,—I read Mr. W. G. Spencer's letter on the wrong teaching given to ambulance classes in THE LANCET of Jan. 4th with surprise. He seems to take it for granted that because a person has gone through one course of lectures on "First Aid" and treats a patient wrongly that the lecturer must be at fault, because the said person *says* he was taught to do what he did. I am perfectly aware that a deal of harm is done by people who attend one course of lectures and no more and, maybe years after, when suddenly called upon to stop hæmorrhage and having only a hazy recollection of what they ought to do, clap a tourniquet on somewhere or other, and cover their retreat by saying, "That is what I was taught to do." But when you come to a trained body of men, such as the St. John Ambulance Brigades, who are constantly rendering first aid under the *immediate supervision* of an honorary surgeon of the brigade, my experience is totally different. I have never seen a case of primary hæmorrhage that was not treated in the same way as I should have done myself—viz.: (1) by digital pressure in the wound; and (2) by a hard pad and bandage (if available) over the wound. If a member of the Worksop Division were to tie a handkerchief "on the side nearest the heart," instead of *directly over* a ruptured varicose vein, I should advise him to go home, burn all his certificates, and hand in his resignation.

I am, Sirs, yours faithfully,

A. J. HELM MONTAGUE,
Honorary Surgeon and Superintendent, Worksop Division,
Jan. 6th, 1902. St. John Ambulance Brigade.

To the Editors of THE LANCET.

SIRS,—In answer to Mr. W. G. Spencer's letter on the subject of "First Aid and Primary Hæmorrhage: the Wrong Teaching given to Ambulance Classes," I am sorry that he has made use of a wrong statement in the latter part of his heading, because in the commencement of his second paragraph, he says, "It would 'appear' that instruction is given in such classes which is not informed by the actual requirements of practical surgery." By saying this he goes against the positive statement given in his heading.

Surely, Sirs, Mr. Spencer cannot for one single moment believe that any qualified medical man (who alone are entitled to lecture and examine for the St. John Ambulance Association) would be foolish and ignorant enough to leave out in his lecture the first general principle of the arrest of hæmorrhage? If so, he can have very little faith in his own cloth. If Mr. Spencer will look at the "Text-book on First Aid" which is supplied by the St. John Ambulance Association, and on which lecturers have to give instruction, he will find clearly printed and in large type what he says is not taught, and it is in such languauge that the most ignorant person who is able to read can easily understand.

It is a pity that Mr. Spencer should blame those of his professional brethren who are ambulance lecturers, for he should have sufficient confidence in them to know that they would never teach such glaring mistakes as he mentions, but he should be excused if he blamed the lay public for not paying sufficient attention to the lectures and instruction given them, and also for not keeping up the general principles taught them.

I am a lecturer of 20 years' standing and an examiner for the St. John Ambulance Association, and have probably seen a good deal more of ambulance work done by the lay public than Mr. Spencer has, and am proud to say that I have seen much excellent work done by holders of the First Aid certificate, and have known more than one life saved by their prompt attention. As an examiner I say that I should not hesitate to pluck any candidate who told me that he would act in the way that Mr. Spencer describes. In conclusion I cannot help saying I do not wish to shield those laymen who made the mistakes Mr. Spencer has mentioned, but it is not the fault of the teaching; it is the difficulty of driving plain common-sense into the heads of some people.

I am, Sirs, yours faithfully,

JAMES J. MARSH,
Surgeon to the Belgravia Nursing Division of the St. John Ambulance Brigade.

Jan. 6th, 1902.

To the Editors of THE LANCET.

SIRS,—As a lecturer on first aid for over 16 years and an examiner for many years I ask you to allow me to reply to a letter by Mr. W. G. Spencer in THE LANCET of Jan. 4th. Mr. Spencer details a list of cases in which improper first aid has been the cause of disastrous results. Of course, good intentions cannot be adduced as an excuse for ignorance or justify doing harm although meaning well. But it is in his deductions that I take exception, as I consider they are formed upon an imperfect basis. He states that because those who have been pupils of ambulance classes have in many instances made grievous errors in first aid treatment, therefore the instruction given has been wrong. He says: "It would appear that instruction is given in such classes which is not informed by the actual requirements of practical surgery. Those who have attended such classes seem to have got the idea fixed in their minds that they must always apply some sort of an improvised tourniquet to the limb above the bleeding point, whilst they have not learned in these classes the necessity of applying pressure directly to the wound."

I have always impressed upon my classes that the two most important things to remember in first aid to a case of hæmorrhage are—position and pressure upon the bleeding point. I have examined classes all over East Kent and I have universally found that the same teaching has been adopted, and it has been a very rare exception to find a candidate applying a tourniquet, except as an adjunct, when the hæmorrhage was arterial and excessive. I will not go further into details, but must say from my experience that the teaching in first aid classes in connexion with the St. John Ambulance Association is sound from a surgical point of view and in no way deserves the public strictures which Mr. Spencer has directed against it.

The practical side of the question raised is of great importance, as such disastrous results of first aid call for a remedy as speedily as possible. This, I believe, can only be achieved by discovering the true cause of the ignorance displayed, and not by hasty condemnation. In my opinion the defect lies in the short course of instruction—viz., five weekly lectures. With enthusiastic pupils, reading up their notes and book, this is sufficient to enable them at the end of the sixth week to pass an examination with about 60 per cent. of marks. But evaporation soon takes place, and unless they continue their reading they soon become very uncertain and mixed in their ideas as to what they should do in any emergency. This is a natural result. Therefore, the remedy appears to be to prolong the course of instruction, and thus give an opportunity of more firmly fixing the principles of first aid on the minds of the pupils. I have had many opportunities of seeing cases in which suffering has been greatly relieved, and in more than one instance life probably saved, by properly applied first aid, and I feel strongly that encouragement ought to be given to every man and every woman to acquire a knowledge of it rather than discouragement.

Defects and ignorance certainly are rightly and justly brought before the profession, but I fail to see any justification for making ruthless accusations against ambulance teachers without any evidence whatever. I maintain that they have not deserved this censure, as they cannot be held responsible for the fault of others.

I am, Sirs, yours faithfully,

Herne Bay, Jan. 6th, 1902. EDWARD C. FENOULHET.

To the Editors of THE LANCET.

SIRS,—It is with the greatest satisfaction that I see that a surgeon of Mr. W. G. Spencer's position has taken up this important subject, the necessity for reform in which was first forcibly impressed upon me by a case which occurred when I was a house surgeon at St. Bartholomew's Hospital. Although almost exactly similar to one related by Mr. Spencer, yet it is so typical that I would wish to quote it, for it is difficult to effect an alteration in traditional teaching, and I do not think the point can be too much emphasised.

A workman was carried into the hospital with the history that a piece of iron had fallen against his leg, causing it to bleed freely, and that the foreman of the works, having received ambulance instruction, had duly attended to him. The right leg of his trousers was saturated with blood, and his blanched face and anxious, restless expression showed how severe had been the hæmorrhage. Round his leg were loosely wrapped some rags; on tearing these off an actual jet of blood was disclosed issuing from a small wound in a varicose vein. The tip of one finger arrested this at once, and looking up the leg I found a tourniquet of cord and pieces of wood tied firmly round the thigh tight enough to impede all venous return. This was cut away at once, and there was no further trouble with the hæmorrhage, but the man was not well enough to leave the hospital for a week owing to his anæmic state.

Two things seemed clear in the case: firstly, that if no tourniquet had been applied the bleeding would have ceased spontaneously; and secondly, that if it had not been removed the man would have bled to death. He would have been killed by misguided interference, and this case is but one of many. Surely it is wrong to encourage the use of such an uncertain and dangerous appliance. If it is applied tightly enough not to actually increase the hæmorrhage it must cause great pain, and if not soon removed may determine gangrene of the limb, while in the immense majority of cases it is a quite unnecessarily severe measure. We know that hæmorrhage from wounds of even large arteries—and these form but a fraction of the cases dealt with—can be treated successfully by pressure. Mr. Bowlby, writing of his recent experience of cases of primary hæmorrhage in South Africa, states that "in the vast majority of cases rest, pressure, and careful bandaging with elevation of the wounded limb, will suffice." Why, then, should the inexperienced be worried and confused by being told first to distinguish between capillary, venous, and arterial hæmorrhage, and to apply different treatment for each, and a tourniquet in one position or the other for the last two, when one simple method, *pressure at the seat of injury*, is the right treatment for the overwhelming majority of them all, no matter where the wound is situated? And add to this confusion the loss of valuable time in trying to determine the particular kind of bleeding in a given case (when probably all three are occurring) and then improvising and attempting to apply a tourniquet in what is imagined to be the right place. The only objection to local pressure seems to be a possibly increased risk of sepsis from direct applications to the wound, but I cannot think this of much weight practically.

The fact seems to be that the tourniquet idea appeals to the average person and sticks in his mind, although undue stress may not be laid on it in the ambulance books and classes. But it is the object of first-aid instruction to impart something clear, lasting, and, above all things, useful, to the minds of those who attend, and in the subject of the arrest of primary hæmorrhage I think all must agree with Mr. Spencer that this end has not been attained by the methods of teaching at present in vogue.

I am, Sirs, yours faithfully,

R. DE S. STAWELL, M.B. Cantab., F.R.C.S. Eng.

Shrewsbury, Jan. 6th, 1902.

CARCINOMA AT AN EARLY AGE.

To the Editors of THE LANCET.

SIRS,—The following may be of some interest from the early age at which the disease developed. Last week he attended a woman, aged 24 years and five months, in her

first confinement, but she was unable to nurse the child as one breast was removed in April last for carcinoma and the other now shows some evidence of being implicated. She has been married about 12 months and it is two years since she first noticed a lump in the breast. The diseased tissue was subjected to a pathological examination and the diagnosis was confirmed before operation. Her mother is stated to have died from a "tumour in the side." There is nothing else of importance in the family history.

I am, Sirs, yours faithfully,

E. F. O'FERRALL, L.R.C.P. Lond,

Brixton, S.W., Dec. 16th, 1901.

THE SANATORIUM TREATMENT OF CONSUMPTION.

To the Editors of THE LANCET.

SIRS,—I noticed with great regret that in THE LANCET of Dec. 28th, 1901, p. 1843, Mr. Edward Dean Marriott used Sir Dyce Duckworth's remarks, on the personal factor in tuberculosis as a text to anathematise the sanatorium treatment of consumption and all who follow it; and I venture to controvert several of his statements, as I feel that his letter, if left unchallenged, might do much to throw discredit upon a method of treatment the value of which we in England have but lately recognised. Apart from various side issues which your correspondent raised, such as the question whether tuberculosis is an infectious disease, the main burden of his philippic was grouped under these headings: 1. Is any scheme devisable by means of which the aspirations of the National Association for the Prevention of Consumption and other Forms of Tuberculosis can be attained? 2. Judged by their own theories of disease-causation, does the aggregation of cases of consumption in sanatoriums recommend itself to ordinary common sense? 3. Are these extraordinary effects being directed in the true spirit of disease prevention?

1. Dealing with the first question Mr. Marriott very rightly lays stress on the fact that in order to effect a permanent cure the treatment taught in *efficient* sanatoriums must be kept up by the individual patients for two or may be three years; but there is nothing to support his deduction that a patient must spend these two or three years in a sanatorium. It has been found, after an experience of 10 or more years, by competent authorities such as Brehmer and Otto Walther, that patients can complete their own "cure" in the greater number of instances after they have spent from four to six months in a sanatorium. During these four to six months the greater number lose all the active symptoms of their disease, which assumes a quiescent and fibrotic character, and in addition they learn the infinity of detail which is necessary to their well-being and by following which they can consolidate their "cure." Mr. Marriott is not justified in making his deduction that the time required is so long that "the financial problem alone is absolutely insoluble," for Sir John Burdon Sanderson,[1] in an admirable address on our duty to the consumptive breadwinner, has shown that the financial problem involved has already been solved in Germany by a system of compulsory insurance; in other words, "every workman whose income is less than £100 a year is required by a law, which came into full operation about *10 years ago*, to insure himself against the two greatest ills flesh is heir to—sickness and old age." Part of the funds accumulated in this manner has been devoted to the establishment and upkeep of the numerous sanatoriums which now exist in Germany for the treatment of consumption among the poor.

2. Mr. Marriott asks the question, Does the aggregation of cases of consumption recommend itself to ordinary common sense? and then asserts that the atmosphere of sanatoriums is so laden with tubercle bacilli that it is a positive source of danger to the patients. Now, sanatoriums are usually built where sunshine and pure fresh air—the two greatest enemies the tubercle bacillus has—are most abundant and every precaution is taken in efficient establishments of the kind to avoid any possible spread of infection. In fact, it seems highly probable that the "atmosphere" of any good sanatorium is far more free from tubercle bacilli than the "atmosphere" of an ordinary English house. Your correspondent further bolsters up his argument by stating that the aggregation of cases of scarlet fever and diphtheria in isolation hospitals has been followed by nothing but harm and has created a disease—post-scarlatinal diphtheria. If he will put himself in communication with the medical superintendent of some such institution as the London Fever Hospital, where the treatment of these diseases is carried out on rational open-air lines, I think he will find that the complications and sequelæ met with there compare most favourably with those which obtain in ordinary houses.

3. Mr. Marriott holds that he is committing a heresy in saying that consumption is chiefly caused by want of cubic space and by defective drainage. His figures on this point are hardly necessary, for, as Sir John Burdon Sanderson has said, "the prevalence of phthisis is now recognised as one of the most certain indications of sanitary defects"; but, notwithstanding his recognition of the fact that absence of fresh air, together with the presence of debilitating influences, such as bad drainage, are the main etiological factors in consumption, your correspondent strongly protests against any endeavour being made, by means of sanatorium treatment, to place those already afflicted with consumption under such conditions that they may have a continuous supply of fresh air together with complete absence of debilitating influences.

To quote Sir John Burdon Sanderson once more, "Sanitary improvement is only one of the lines along which we have to work in the combat with pulmonary tuberculosis. ..... In other words, *sanatoria for the poor are a necessity*. It is 10 years since this great necessity was recognised in Germany. It has not, even yet, been recognised in England." I would add that Mr. Marriott has also failed to recognise the enormous educational value of sanatoriums and of hospitals such as the Brompton Hospital for Consumption.

Your correspondent enters a further "earnest protest" against specialisation in this direction. He says that this is equivalent to making a "corner" in fresh air. As those who have carefully studied efficient sanatorium treatment know, fresh air is one, but only one, of the essentials of the treatment and is not the end and beginning of it. Dr. Otto Walther, in a recent letter to me, says, "The importance of 'individual treatment' must be emphasised again and again. There is no rule which has not to be altered more often than followed." So far as my own experience goes I am convinced that the personal factor in tuberculosis receives more anxious attention in efficiently conducted sanatoriums than under any other conditions.

If Mr. Marriott is merely inveighing against sanatoriums run on the principles of an hotel and mainly for profit I am entirely with him, but it is unfair to throw discredit upon a vital form of treatment because certain men have succumbed to the "grosser temptations of the hotel-keeper."

I am, Sirs, yours faithfully,

Brook-street, W., Dec. 30th, 1901. ARTHUR LATHAM.

[1] Brit. Med. Jour., July 6th, 1901.

To the Editors of THE LANCET.

SIRS,—Mr. E. D. Marriott, in his letter in THE LANCET of Dec. 28th, 1901, p. 1843, has touched on several points of special interest at a time when the sanatorium or open-air treatment of tuberculosis is occupying the thought and attention of the profession and the public. The cure of phthisis by the open-air treatment has for a long time been a favourite theme of the public press. So radical a change in the principles of treatment as was the exposure of feeble consumptives to the action of cold, fresh air, regardless of climate and season, gave rise to amazement, and often to incredulity. From various sources came tales of wonderful "cures," the enthusiasm of the ardent supporters of the treatment and the press notices leading many to expect the impossible. The hope and anticipation of the profession itself have hardly been as yet fully realised, but there is every reason to feel sanguine, looking at the results which have already been obtained. As more data come to hand and those interested in the work have further experience, the subject will be put on a clear and well-defined basis. As regards the use of the word "cured" it is not now generally adopted and it is unlikely that careful men in charge of sanatoriums will use the expression. We are justified in substituting "arrest," as those who have had charge of sanatoriums can well testify. Argument on the use of such terms as "cure" and "first stage" case throws no discredit on the treatment. The fact remains that the large majority, if not all, of the *early* phthisical patients are enabled to return to their homes and occupations in robust and vigorous health—a striking object-lesson to all of the value of properly conducted open-air treatment. Not only do they carry away with them a healthy frame, but a mind widely expanded by the practical

lessons which they have received in elementary hygiene, a knowledge which those around them may readily acquire.

It is much to be regretted that many in whom the disease is more firmly established are unable to remain in sanatoriums long enough to enable us to put "arrested" after their names when describing their condition on leaving. When the profession, and perhaps the public as well, realise the vital importance of *early* treatment and patients are sent in before the disease is firmly established; and when slight apical dulness and prolonged expiration are, with the subjective symptoms we all know, regarded as more than suspicious, the numbers who must now be returned to their homes as "not improved" will be very small. In many cases the "treatment" as regards the open window, dietary, and exercise is followed up at home with excellent results.

I venture to think that the term "aggregation" is inapplicable. Flocking together of the patients is very strongly discouraged. There may be two in one shelter or a larger number in a roomy, breezy ward; but here, as in the dining-hall—the only place where patients come together—the air-space is unlimited and the air in motion, and this motion of the air is the very essence of the open-air feature of sanatorium treatment. Closed windows or shelters that do not permit the free passage of air-currents ought never to be used. If the patients were allowed to occupy a still and stagnant atmosphere the *circulus vitiosus* might be created, but under proper sanatorium treatment this could never be the case, the aërial currents removing at once all organic matter and bacilli which are soon destroyed by nature's methods—air and sunlight. In this way no zone of infective matter can be formed and infection is impossible. With a single open window the thorough purification of the air cannot be assured and herein lies the difficulty, or one of them, of carrying out the treatment away from a sanatorium which is literally an open-air institution. Unfortunately, in the vast majority of dwelling-houses the air is vitiated more or less and here infection is very probable, but we do not learn of any attendant on consumptives being attacked, nor are there any grounds for assuming that reinfection does take place. And I doubt if such is possible in a well-constructed and well-conducted institution. The patients themselves enjoy their healthy surroundings and fairly revel in the fresh air, and to one who has lived in a sanatorium no word could seem less suitable than that of "prison" used by Mr. Marriott. The cheerfulness, the ready acquiescence to the necessary discipline, the returning health, the hopefulness of recovering patients and their enjoyment of their surroundings tend to produce a harmony and brightness far from one's idea of durance vile. The disease, we know, is not to be eradicated by sanatorium treatment alone, which deals mainly with a result but in some measure reaches the cause by the dissemination of knowledge of the best means of promoting health and preventing infection. The patients learn the value of fresh air, instruction in the use of which is needed so urgently amongst all classes, as the poisonous atmosphere of public buildings and conveyances as well as residences amply testifies; so that while all effort should be made to promote a higher standard of health by the adoption of thorough ventilation, better housing of the working-classes, modern drainage systems, and other sanitary measures, no pains should be spared to ameliorate the condition of those who are afflicted.

It does not follow that any claim has been made for a "corner" in fresh air because the treatment cannot always be effectually carried out at home. Though fresh air may be the principal agent in the treatment there are others which are of hardly less importance. I mean a careful regulation of the patient's daily life in every detail, and this, I believe, can, until the patient is in a fair way to recovery or the disease of very early stage, only be carried out in a sanatorium where the patient is guided by those who have made a special study of the disease and are accustomed to sanatorium practice. Under these conditions the happiest results may be looked for in those who come under treatment at an early stage of the disease, and often to those in whom evidence of consolidation of extensive area of lung is not wanting hope of prolonging life under pleasant circumstances may be given.

I would add a word about the condition of the teeth in phthisical patients, a matter on which one can hardly bear too strongly. It is an exception, in my experience, to find even a moderately good set of teeth; not only is the masticating power lost or defective, but the mouth is often filled with stumps in all stages of decay. The food, on which the feeble patient is so dependent, is not only introduced at the very entrance to the digestive tract to the action of septic micro-organisms, but is swallowed in masses too large for the enfeebled digestive organs to deal with. I would make it a rule that prior to the treatment of a consumptive patient the teeth and gums should receive the attention that will enable them to fulfil their important offices effectually.

I am, Sirs, yours faithfully,

W. M. M. JACKSON
(Late Resident Medical Officer, Westmorland Consumption Sanatorium).

Scarborough, Jan. 4th, 1902.

THE LONDON LICENTIATES' AND MEMBERS' SOCIETY.

To the Editors of THE LANCET.

SIRS,—I would like to state concerning the paragraph in your annotation of Jan. 4th—

> If the London Licentiates' and Members' Society can *prove* that the diminishing number of medical students at the metropolitan schools is really due, or largely due, to the fact that the title "Dr." is not obtainable through the portals, &c.

I submit that little further proof is necessary, for it is well known and felt by the teachers of London that the grave disabilities of London medical students have been an ever-increasing cause of dissatisfaction for the last 15 or 20 years and have culminated in many men joining provincial schools. As regards provincial men, it is unlikely that Welsh, Liverpool, and Birmingham students will be induced to come to the metropolis, London offering practically no pass degree as a reward when they have degree-granting bodies of their own. It must also be remembered that the Carnegie Trust of £2,000,000 will naturally act as a further stimulus for Scotchmen to return to study medicine in Scotland. I have been repeatedly informed by conjoint men that they strongly advise intending students to avoid coming to London under present circumstances. I think the above facts go to show that the absence of attraction in London with the counter-attractions elsewhere is, and will be, the further cause of a diminution in the number of London students.

I am, Sirs, yours faithfully,

FREDERICK W. COLLINGWOOD.

Wimpole-street, W., Jan. 4th, 1902.

IRRIGATION IN INFANTILE DIARRHŒA.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Dec. 21st, 1901, p. 1728, Mr. W. B. Bennett reports a case of epidemic diarrhœa in an infant treated by irrigation of the bowel. Only on one occasion was irrigation performed and immediate and lasting relief followed, although on withdrawing the nozzle of the syringe the injection was "immediately shot out in all directions." While agreeing with Mr. Bennett as to the value of this form of treatment, I cannot but think that the evidence adduced in his case is not very convincing. It is not easy to persuade oneself that the almost momentary presence of a weak solution of permanganate in the bowel could bring about immediate and lasting cure of a disease which had resisted all other treatment for nine days; at any rate, I fear that anyone expecting a like result would be disappointed in a considerable proportion of cases. If Mr. Bennett had been able to report upon the result of similar treatment in others of the many cases which came under his care last summer it would have been of greater value. My own experience of this treatment has so far been very limited. In one case of very obstinate diarrhœa in a child, aged 13 months, treated in the summer of 1900, irrigation was, I believe, the means of saving the child's life. The diarrhœa had persisted for about six weeks before I began to irrigate, from 10 to 25 extremely offensive watery motions being passed in 24 hours, with latterly mucus and streaks of blood, in spite of dieting—whey, albumin water, and raw meat-juice being successively tried, and bismuth, salicylate of soda, resorcin, creasote, tincture of opium, &c., in the way of drugs. I commenced by injecting half a pint of weak boric acid solution twice a day, gradually increasing it, under low pressure (and desisting as soon as the child showed any signs of discomfort), up to nearly two pints. This treatment had, however, to be continued

for nearly three weeks before the motions became normal, and had to be resorted to some weeks later when a relapse followed a perhaps too sudden increase of diet, and was then again successful. In addition to the cleansing of the bowel, probably some benefit is derived from the absorption of fluid if the injection is retained for a sufficient length of time, and for this reason, as well as for the more thorough washing out of the bowel, it is well to use as large a quantity of fluid as can be borne without discomfort and to retain it as long as possible. Though irrigation is a well-recognised form of treatment, it is probably not made use of as frequently as it might be, and considering the heavy mortality from diarrhœa in infants any treatment which holds out any prospect of relief is of vital importance.

I am, Sirs, yours faithfully,

WILLIAM THORNELY, M.B. Cantab.

Herne-hill, S.E., Jan. 4th, 1902.

THE CONSULTANT AND THE GENERAL PRACTITIONER.

To the Editors of THE LANCET.

SIRS,—The letter of Mr. F. Montague Miller and your leading article on the Relationship of the Consultant and the General Practitioner will do more for the latter in a few months than all the muddling and bungling of the General Medical Council will do for him in a dozen years. I have been engaged in practice for over 20 years, and I have for some time been very sure that the relationship of the consultant and general practitioner has been steadily altering—for the worse. One reason is that the general practitioner is becoming more and more of a "general specialist." He has to have nowadays an intimate knowledge of all "special" organs; firstly, for purposes of passing examinations; and secondly, for the purposes of existing amidst the competition of his fellows. On the other hand, the consultant is rapidly becoming more of a general practitioner. If a specialist he does not disdain to prescribe for ailments outside his speciality.

Personally, I regret to have to say that although I have received every courtesy from some consultants, by the majority I have actually had patients filched. It may possibly be charitably supposed that in the bustle of his busy consulting-room the consultant may "forget" to ask a patient who has obviously been previously receiving treatment from someone (sometimes prolonged) who the someone was, but it certainly is annoying to find that when, having answered a patient's offhand question, such as: "Who is a good man for the toe-nail, doctor?" the patient hereafter goes to the good man "on his own" and never returns. More than once the explanation has been: "Well, doctor, you see I found him in the end just as cheap as you. He charged me a guinea, but as I told him I could not pay that every time he told me he would see me twice or three times after each fee for nothing; and occasionally he even saw me at the hospital."

No wonder the general practitioner is beginning to fight shy of his consulting *confrère* when the consultant—so-called—salves his conscience forsooth and acts perfectly uprightly by the terms: one consultation one guinea; second ditto, gratuitous; third ditto, gratuitous. Of course he cannot accept a lower fee than one guinea, and equally of course this is not the same as 7*s.* per consultation. Oh, dear, no! So he retains, if possible, every fish in his net that swims his way, and the general practitioner, finding that such is the case, keeps them in his own pond if possible.

I am, Sirs, yours faithfully,

Jan. 6th, 1902. A GENERAL PRACTITIONER.

THE LIVERPOOL PATHOLOGICAL DIAGNOSIS SOCIETY.

To the Editors of THE LANCET.

SIRS,—In the Thompson-Yates Laboratory Reports, vol. iii., part 1, I find the following facts about the above society. The annual subscription is 10*s.* 6*d.*, and for this amount any practitioner can send for examination any number of specimens from cases of infective diseases, or tumours, or samples of urine. There are 200 members and nearly 1000 examinations were made during the year. This works out at 2*s.* 1*d.* for each examination. These facts show that the practitioners of Liverpool, who, I suppose, value the opinion of a consulting physician or surgeon at the usual amount, think that the opinion of a pathologist is only worth 2*s.* What would be the result if the chemical department of a college undertook to carry out the work of consulting analytical chemists for a twentieth of the usual fees? Would not the chemists throughout the kingdom unite in condemning such a practice? I fail to see the difference in principle between such a society as this and a consultative institute for providing cheap medical and surgical consultations, and we know the opinion of the profession with regard to the latter. Pathologists are necessarily consultants and should be treated as such.

It is much to be regretted that the Liverpool laboratories, from which such excellent work emanates, should be associated with this society, but Liverpool is not the only defaulter in this respect. There are numerous centres throughout the kingdom at which pathological opinions can be obtained at cheap rates without any questions being asked about the position of the patient in whose favour the opinion is desired, and it is certainly not to the credit of the profession that these societies should continue to exist unless they are restricted in some way or other.

I am, Sirs, yours faithfully,

Leeds, Dec. 10th, 1901. C. POWELL WHITE.

A SPEEDY METHOD OF RELIEVING THE PAIN OF PILES.

To the Editors of THE LANCET.

SIRS,—The composition of the substance referred to at p. 25 of THE LANCET of Jan. 4th which gave almost immediate relief to the pain of a protruded pile was 10 per cent. of cocaine and 20 per cent. of menthol in oil of theobroma. The reporter probably mistook "p.c." for "c.c." and wrote "cubic centimetres" instead of *per cent.*

I am, Sirs, yours faithfully,

Liverpool, Jan. 5th, 1902. WILLIAM CARTER.

X RAYS IN THE TREATMENT OF PHTHISIS.

To the Editors of THE LANCET.

SIRS,—As an aid to the methods usually employed at the present time in the treatment of phthisis I have used the Roentgen rays. The cases most suitable for this treatment are of course those in which the apex of one lung only is affected. Using a coil giving a 10-inch spark the resulting x rays were focussed on the seat of the pulmonary lesion for an hour or longer each morning and evening. I should be glad if any other practitioners who have used this method would record their experience.

I am, Sirs, yours faithfully,

Sheffield, Dec. 30th, 1901. E. B. HAZLETON, M.D. R.U.I.

A DANGEROUS PRINCIPLE.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Dec. 21st, 1901, p. 1764, you were good enough to publish under the above heading a letter of mine in reference to the President, Vice-President, and Council of the Royal College of Surgeons in Ireland refusing to give me a copy of their by-laws "by advice of their solicitor." As your readers may recollect, I stated that I asked for these in order to ascertain if they in any way bore upon the following provision of the College charters of 1844 and 1885:—

> And the examiners or any number of them declared by the by-law to be competent to transact business as a Court of Examiners shall in the presence of the President or in his absence of the Vice-President and two or more members of the Council examine ..... any candidate for a Fellowship.

Since then a Fellow of the College applied for a copy of the by-laws and received the following reply, under date Jan. 2nd, 1902:—

> SIR,—In reply to yours of 27th inst. I am directed by the President and Council to inform you that there are no copies of the by-laws available.
>
> A new edition is being prepared, but it will take some time to bring out this edition as several changes are contemplated in the by-laws and *Charters*. Yours truly,
>
> JOHN BARTON, F.R.C.S., Secretary of Council.

I admit I am now mystified by the action of the College, for how can the President, Vice-President, and Council

logically refuse by advice of their solicitor by-laws which according to their own statement they do not possess? It was on Feb. 25th of last year when I first applied to the Registrar for the said by-laws.

I am, Sirs, yours faithfully,

Dublin, Jan. 8th, 1902. S. WESLEY WILSON.

MUNICIPAL BACTERIOLOGISTS.

To the Editors of THE LANCET.

SIRS,—The annotation headed "Municipal Bacteriologists," which appears on page 47 of THE LANCET of Jan. 4th is scarcely distinguished by your usual accuracy. A complete department of bacteriology has been working in the borough of Camberwell for more than four years, and its foundation was commented on at the time, whilst various features of its working have been noticed since, in your own columns. The example thus set has been fairly widely imitated, and, so far as my information goes, neither Cambridge nor Liverpool can claim anything like priority, even in succession to Camberwell. I am happy to be able to add that not only was the local authority of this borough the first to recognise the value of work in this particular direction, but that there is no suggestion which I have been able to make in connexion with it which has not been promptly adopted and carried out as thoroughly as money and trouble could do it. Honour to whom honour is due.

I am, Sirs, yours faithfully,

EDWARD C. BOUSFIELD,

Bacteriologist to the Metropolitan Borough of Camberwell.

Old Kent-road, S.E., Jan. 6th, 1902.

THE TEACHING OF ANÆSTHETICS.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Dec. 7th, 1901, p. 1638, Dr. Heron Watson is reported to have said, during the discussion of the General Medical Council on the above subject, (1) that the subject was taught in Scotch universities; (2) that nurses and dressers were taught the use of anæsthetics in Scotch hospitals and infirmaries; and (3) that *there were no accidents in the said institutions with anæsthetics.*

Now, while the subject of teaching anæsthetics systematically—i.e., compelling the student to attend a course of instruction and show a certificate of such attendance at his final examination—may be one over which there is room for discussion and diversity of opinion, seeing how overburdened he is with "certificate acquiring" already there can be no good object attained by perversion of the truth, unintentionally or otherwise, and I beg most emphatically to deny the third statement *in toto* and the first two partially. I submit that the teaching of anæsthetics in Scotch universities at the present moment amounts to one lecture given, often perfunctorily, by the professors and lecturers on surgery, some even omitting it altogether. Secondly, *clinically* students from their first year, often totally ignorant of the most elementary physiology, are shown how to give chloroform "by rule of thumb." But I beg to say that nurses are not taught to give anæsthetics. I rejoice to say it. They may have been in Dr. Watson's earlier days, and, indeed, I believe they were. I met one of these said nurses not long since—"one of the old school"—and she gave me a very dramatic account of how a patient died in her hands from $CHCl_3$ once, since when she had refused to touch what was distinctly out of her sphere. In no well-regulated hospital is such a procedure now permitted, and Dr. Watson is hardly doing justice to the school he represents in making such a statement. Thirdly, accidents do occur in Scotch hospitals and infirmaries just as they are known to occur in English hospitals and, indeed, in private practice; of this I have abundant documentary evidence and personal knowledge. In Glasgow during a recent year *50 deaths were registered as due to anæsthetics. In five months 10 occurred in hospitals alone.* These last figures are from the gentleman who conducted the post-mortem examinations on behalf of the Crown. As to Edinburgh I know little except that during the past year there have not been less than six deaths in public institutions. Of Aberdeen I can say nothing, but proportionate results are probable. I need not take up your space with further figures; that these accidents do occur is well known even by the laity through the public press. It is no use moralising on the subject, some of them are quite unavoidable, but it were well if more surgeons had the honesty and common sense of Sir William M. Banks and gave their conclusions and experience to the profession as he has recently done.[1] What is wanted is for practical surgeons in large hospital and private practice to discuss such a matter. I know for a fact that a large proportion of students desire more teaching and more light on various points in anæsthesia. If 90 per cent. of students in our schools were asked why the pupil dilated early in chloroform anæsthesia, why it contracted later, and why if the drug was again pushed it dilated again and remained fixed, not one would reply that the first was due to stimulation of the sympathetic, the second to stimulation of the third nerve or its cerebral centre, and the last to absolute poisoning and paralysis of the third nerve and centre.

Dr. Heron Watson has earned the respect of the whole profession by his versatility and his brilliant contributions to the surgical art, but a man in his position when pronouncing on so important a question should make himself more sure of his facts. Borbonius said:—

"Tempora mutantur, nos et mutamur in illis."

The latter is not always true. I inclose my card and apologise for the length of my protest.

I am, Sirs, yours faithfully,

Jan. 7th, 1902. NICOL JARVIE.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Plague Epidemic.—The Shortcomings of Indian Municipalities.—Typhoid Fever amongst the Natives.—Confused Terms for Mild Cases of Plague.

LAST week's figures showed only a temporary diminution in the mortality from plague. This week they have again risen and the total deaths for the whole of India number 8878. The Bombay Presidency returns higher figures—viz., 5989, as against 5655 last week. The Punjab had 1689 deaths, as compared with 1646. There has been an increase in Bengal from 168 to 205. The total mortality in India from plague last year during the corresponding week was 1989 only. Plague seems to be increasing again in Bombay city. In Calcutta also, though the figures are small, there are signs of a recrudescence. The deaths from plague last week were only 21, while for this week 31 deaths are recorded. In Bangalore city and in the cantonment, and also in Mysore city, the deaths from plague are higher.

Notwithstanding the increase of plague in nearly all of the infected districts it is disappointing to find that only 1218 doses of the plague vaccine were sent out from the laboratory at Bombay. Inoculation is being carried on to a limited extent in Poona. It is reported that the mortality amongst those recently inoculated is much less than amongst those who were inoculated in 1897. The development of the disease in the district of Lahore and its spread in the Punjab has awakened the citizens of Lahore to take steps against it. A non-official committee has been formed and the station has been divided up into specified areas. The formation of these committees is useful as an instructional movement in sanitation, but their value in controlling the extension of the outbreak is very doubtful. The continued existence of plague has directed more attention to sanitary matters than has been given to them before, so that at probably every infected station in India out of evil will come some good. Some of the municipalities are very apathetic. At Madura, the second town in the Madras Presidency, sanitation is the most crying want. The water-supply is reported as deficient in the hot months. There is no drainage system. There is not a single cart maintained for sewage. The markets are in bad repair and dirty. The night-soil depôt is half under water during the rains and the slaughter-houses are mere inclosures without the barest essentials. The public roads, streets, and lanes are used as latrines. Again, it is reported for the town of Dindigul that the disposal of the rubbish and the night-soil is unsystematically carried out and that the market and slaughter-houses are badly in need of improvement.

[1] THE LANCET, Nov. 16th, 1901, p. 1323.

The more frequent reports of cases of typhoid fever amongst natives show that this disease has been hitherto overlooked. Instances of continued fever not due to malaria require more careful investigation. The intestinal symptoms seem less marked in the native. There may be little or no diarrhœa and not even any marked meteorism. Spots may be difficult of detection and the spleen may have been previously enlarged. Typhoid fever in the native is more of a systemic infection without local manifestations.

The case of suspected plague found in West London and reported in THE LANCET of Nov. 23rd, p. 1443, is described by Mr. A. Baldwin and also by a writer in one of your contemporaries as one of pestis minor notwithstanding that "the bacteriological investigations negatived the idea of the case being true plague." There is apparently great confusion of terms concerning mild cases of plague and doubtful forms of glandular enlargement. Pestis minor is plague. It cannot be applied to "a specific form of glandular enlargement which occurs when plague either threatens or is actually about" and at the same time not be a mild case of plague. It is plague, but a mild form of it, and pestis ambulans is only another gradation of it. Medical officers in India are familiar with these cases, but though they may be given different names they are all recognised as cases of plague. Surely the proper term for cases not in any way due to plague is "glandular fever." The confusion of terms has arisen in England; it does not exist here.

Dec. 15th, 1901.

The Plague Epidemic: Prospects in Calcutta and Bombay.—The Distribution of Plague Vaccine.—Increase of the Indian Nursing Service.

THE returns of deaths from plague throughout India fluctuate week by week. For the past seven days 7797 deaths have been reported, as compared with 8873 for the previous week. For the corresponding week of last year there were only 2107 deaths. While diminishing in some of the places now long infected it is increasing in others. In the North-West Provinces the deaths have risen suddenly in number from 68 to 228. Plague has appeared in the cities of Kasur and Phillour in the Punjab. There is a slight decline in Bombay city and the number of deaths in Calcutta continues about the same. In the latter city there is an exceptionally low general mortality; this is accounted for partly by the few deaths from cholera and small-pox. The infantile mortality is enormous. This low mortality in Calcutta, as compared with that of the last two or three years, may possibly indicate either that a recrudescence of the plague outbreak will be deferred or that it will be lessened. The general mortality in Bombay city, also, though high, is below the mean of the corresponding periods of the past few years. The same indication may, perhaps, be seen in the case of Bombay. It is at all events reassuring that the deaths from plague during the past six months favourably compare with the returns of the past two years. There is at present no indication of a recrudescence in Bengal. The disease is declining in Karachi, but it continues virulent in Bangalore city, in the Cantonment, and in Mysore.

The number of doses of plague vaccine sent out from Bombay during the week ending Dec. 13th, 1901, was 7126. As these are less than the number of deaths from plague the progress of protective inoculation can hardly be considered satisfactory. Very little is done in Bengal, and I understand that no operation has been done in Calcutta for some time.

It is reported that the Indian Army Nursing Service is to be augmented by seven senior nursing sisters and 32 nursing sisters.

Dr. Sarat K. Mullick, who in England during the past summer strongly advocated the claims of native medical men to certain posts in India, has returned to India and has been lecturing, amongst other places, in Mysore. He has certainly given good advice to young Indians in urging them to travel and to see England. He tells them that it is quite possible for them to live as vegetarians and total abstainers.

Dec. 20th, 1901.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Hospital Festivities.

CHRISTMAS-TIME has been kept with enthusiasm at most of the hospitals in Birmingham. The authorities of the General Hospital always make every effort to promote the comfort and happiness of the patients. This year an entertainment was given by the resident officers on one evening, and on another a similar gathering was promoted by the resident nursing staff. Both were appreciated highly by crowded audiences. At the Queen's Hospital the occasion was marked by the richness and variety of the decorations, coupled with the distribution of useful gifts to the patients, ornament and utility being happily combined. The workhouse infirmary, the Eye Hospital, the Royal Orthopædic Hospital, and other kindred institutions provided ample enjoyment for the inmates. At the Ear and Throat Hospital the festivities were damped somewhat by one of the patients committing suicide on Christmas Day by throwing herself over the staircase railing and falling some 25 feet while in a fit of temporary insanity.

Milk-blended Butter.

It would be satisfactory to have some definite legal pronouncement on this subject for the guidance of those who have to investigate the numerous cases constantly occurring at the police-courts. A large firm makes what is called a milk-blended brand of butter, the result being that a large percentage of water is incorporated in it. This compound is sold with a label stating what it is and that it retains about 24 per cent. of moisture. Two specimens lately obtained for the purpose of prosecution at the Aston Police-court were alleged to contain 26·83 per cent. of water. The Bench dismissed the case. The question is one of considerable importance to the dairy trade and is of equal moment to the customers.

Middlemore Post-graduate Lectures.

The annual lecture under this endowment was given at the Birmingham and Midland Eye Hospital on Dec. 19th, 1901, by Mr. H. Eales, who took for his subject Some Functional Disorders of Vision. A rather small audience listened attentively to the results of the varied experience of Mr. Eales, which he placed before them in an interesting and able manner.

The Police and the Public.

At the recent discreditable riots which occurred in this city on Dec. 18th, 1901, a young man met with his death in the street after the meeting had been held at the town-hall. It is alleged that the police, receiving an order to charge the crowd, violently assaulted numerous unoffending persons and that the deceased was struck by a police-officer and knocked down. At the inquest held on Dec. 23rd the medical evidence showed that there was a cut on the right side of the head, the subsequent post-mortem examination revealing a fracture of the base of the skull with rupture of an artery causing effusion of blood. There was much evidence adduced to indicate that the deceased was struck by a baton used by the police. The identity of the constable has not so far been established. Meanwhile the watch committee has asked for an inquiry by the Home Secretary, which it is to be hoped will be granted.

Jan. 8th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The new County Asylum at Winwick.

ON Jan. 2nd the new asylum at Winwick was informally opened by the members of the asylums board of the county of Lancaster. There was a large attendance. The undertaking is an enormous one and has been in progress since 1896. The site was formerly Winwick Park, the residence of the late Canon Hopwood, the vicar of Winwick, and was purchased from the Ecclesiastical Commissioners in 1894 for £21,000. Brick-making was commenced in 1896 and in October, 1897, Messrs. Neill and Company of Manchester signed the contract for the building of the asylum for £253,000. Owing to strikes the work has been delayed on several occasions, but everything will be completed within a few months. The buildings will accommodate 1000 male and 1000 female patients and a staff of 200 persons. The block of buildings presents the appearance of a small town, and occupies almost the whole of the large park. The administrative block is in the centre and the remainder of the buildings are built on the pavilion system all around the

administrative block, with which they are connected by corridors, the latter taken together being several miles in length. There are two wings, for the male and female patients respectively, and at some distance away is a hospital for infectious diseases. At the opposite side is a row of houses for officers. On Jan. 6th 25 patients were admitted to the asylum and these will be increased week by week. The asylum will be chiefly utilised for chronic cases. A church is also in course of erection to seat 800 people. There is also a large recreation hall which will accommodate an enormous number. The whole of the buildings were inspected with great interest by the members of the board who expressed the opinion that they would greatly relieve the pressure to which the board has been put to meet the large demands for accommodation for lunacy cases from various parts of the county.

Dr. Gemmel, senior assistant medical officer of Prestwich Asylum, has been appointed medical superintendent of Whittingham Asylum.

Bequests to Liverpool Hospitals.

The late Mr. Alexander Taylor Riddock of Bootle has bequeathed £500 to the David Lewis Northern Hospital and £500 to the Bootle Borough Hospital.

The Health Committee and Preservatives and Colouring Matters in Foods.

The report of the Departmental Committee nominated by the President of the Local Government Board to inquire into the matter of food adulteration and preservatives was the subject of discussion at the last meeting of the health committee. The defence put forward from time to time in the Liverpool police-courts has been that the preservative has certain medicinal merits, and medical evidence has even been adduced in support of this contention, apparently to show that the consumer would derive some advantage from the casual and surreptitious administration of a dose of drugs with his food. Evidence of such a character, the medical officer of health (Dr. E. W. Hope) stated, had frequently been given for the defence when prosecutions had arisen on account of the excessive use of salicylates in foods. Dr. Hope pointed out to the health committee that the final recommendations of the Departmental Committee might be summarised as follows. That the use of formalin or formaldehyde should be absolutely prohibited and that salicylic acid should not be used in a greater proportion than one grain per pint in liquid food and one grain per pound in solid food, and that in all cases its presence should be declared; that the use of any preservative or colouring matter in milk ought to be constituted an offence under the Sale of Food and Drugs Act; that the only preservative to be allowed in cream should be boric acid or borax, in amount not exceeding one-quarter of a grain per cent. expressed as boric acid, the amount to be notified by a label upon the vessel; the only preservative to be used in butter and margarine to be the same as in the preceding, in proportions not exceeding half a grain per cent; that in the case of dietetic preparations intended for the use of infants or invalids chemical preservatives of all kinds should be prohibited; and that the use of copper-salts in the so-called "greening" of preserved foods should be prohibited. It was also recommended that means should be provided for more direct supervision over the use of preservatives and colouring matters in foods. Dr. Hope remarked with satisfaction that the report of the Departmental Committee not only confirmed the equity of the action taken by the health committee, but that, if acted upon by manufacturers and dealers, it would remove altogether the necessity for legal proceedings.

The Liverpool School of Tropical Medicine.

The Liverpool School of Tropical Medicine has received the gratifying intelligence that, following up the excellent work done at the instance of the school at Sierra Leone in the direction of destroying the breeding-places of the anopheles mosquito, the Government has decided to adopt similar measures in other West African colonies. In Gambia a special officer has been appointed who is to see that the most stringent precautions are taken in the matter.

Jan. 7th.

DIPHTHERIA ANTITOXIN.—At the meeting of the Bridgend Board of Guardians held on Dec. 28th, 1901, it was decided to allow the cost of antitoxin to the district medical officers who used it in cases of diphtheria.

WALES AND WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

Cardiff Workhouse.

AN inquest was held at the end of November, 1901, upon the body of a child, 15 months old, who had been taken by the mother from the Cardiff Workhouse on the previous day and who was found to be suffering from bronchopneumonia and to have a fractured arm which it was alleged had not been diagnosed by the medical officers of the workhouse. An inquiry was held into the circumstances on Dec. 17th by the workhouse visiting committee of the board of guardians, when it was stated that the mother persisted in removing the child in spite of the remonstrances of the workhouse matron who pointed out the serious condition of the patient and that the child was undoubtedly of rickety constitution. A great deal of contradictory evidence was given as to whether the woman who had charge of the nursery, and who was not a trained nurse, did or did not call the attention at various times of the visiting medical officer and of the resident medical officer to the child, and the assistant porter admitted that he forgot to enter the child's name in the medical attendance book on the day before the patient left the workhouse. Both these subordinate officers have been called upon to resign, and at the meeting of the board of guardians on Jan. 4th a resolution was passed declaring that although the evidence at the inquiry did not point to any specific neglect on the part of the medical officers they were deserving of blame for not discovering the fracture. The only comment which it is necessary to make upon this resolution is that the resident medical officer was expected to act also as dispenser and that there are over 1000 inmates in the Cardiff Workhouse.

Somerset Lunatic Asylums.

There are in the county of Somerset two lunatic asylums—one at Wells, established in 1848, with accommodation for 850 patients, and the other at Cotford near Taunton, established in 1897, with administrative accommodation for 700 patients but actual ward accommodation for only 450. At the end of last year there were 850 patients at Wells and 476 at Cotford, a total of 1326, of whom 567 were men and 759 were women. The necessity for completing the ward accommodation at Cotford is therefore very urgent. The population of the county at the last census was about half a million. At a meeting of the county council held on Dec. 31st there was a discussion upon the question of providing a separate institution for the idiot paupers of the county. The asylums committee reported that in the present state of the law county councils were only authorised to provide asylum accommodation for certified lunatics and had no power to provide for the idiots and imbeciles at present maintained in workhouses or boarded out with relatives and friends and not so certified. Sir Edward Fry traversed this opinion, and upon his suggestion a special committee was formed to take the matter in hand.

Brentry Homes for Inebriates.

There were at the end of last year 36 men and 170 women under treatment in the Brentry homes for inebriates.

The late Mr. F. G. Engelbach.

At Moretonhampstead parish church on Jan. 1st, in the presence of a large congregation, a memorial tablet was unveiled in memory of the late Frederick George Engelbach, L.R.C.P. Lond., M.R.C.S. Eng. The rector (the Rev. S. D. Dewey) in the sermon spoke of the formation of the Moretonhampstead Volunteer Corps by the deceased, the great interest he took in it, and his subsequently proceeding to the war and his lamented death there while succouring the wounded. The tablet is of brass on a black marble base and bears the following inscription: "To the glory of God and in memory of Frederick George Engelbach, for 10 years medical practitioner in this town and first commanding officer of the G Company (Moretonhampstead), 5th V.B.D.B., who was killed whilst succouring the wounded at the battle of Nooitgedacht, South Africa, December 13th, 1900. Erected by thei nhab[illegible]nts and other friends.—December, 1901."

Jan. th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Small-pox in Glasgow.

THE epidemic of small-pox which has again broken out in Glasgow shows an unfortunate tendency to increase. Six new cases were reported at the end of last week and four additional ones have been notified since, making a total of 31 patients in hospital. All the cases except three have come from the same common lodging-house. It is significant that both the lodging-house keeper, who is an anti-vaccinationist, and his wife are among the victims. One of the lodgers, it has been ascertained, had been ill with the disease for nearly four weeks before the nature of his illness was recognised, and it is to this source that most of the present cases owe their origin. Dr. A. K. Chalmers has issued a circular letter to the superintendents of various lodging-houses in the city pointing out the necessity of obtaining revaccination for all the warders, bed-makers, and other servants, and the importance of securing medical advice in any cases of skin eruption among the inmates. In a recent speech the Lord Provost, in dealing with the epidemic of 12 months ago, pointed out the comparatively light and trifling nature of the outbreak and expressed the indebtedness of the authorities to the medical men and the medical students of the city for their cordial coöperation and assistance.

Glasgow University.

The register of the General Council of this University for the year 1902 has just been issued. It contains the names of 6031 members, being an increase of 204 on the previous year. The increase raises the quorum required for special meetings of the council from 60 to 72.—The total number of students matriculated at the University for the year 1901 was 1672, exclusive of women students who numbered 352.—The Finance Committee of the corporation has again recommended that a sum of £5000 should be presented as a donation to the University. When the former report to this effect was presented to the town council it was sent back for further consideration. The committee has now, therefore, reaffirmed its decision.

Glasgow Hospitals.

The active discussion among the staffs of the three general hospitals in Glasgow in reference to the proposal to establish at each hospital an advisory committee consisting of the members of each staff, led some weeks ago to the summoning of a meeting at which all the hospitals were represented. Though the proposal met with general acceptance the meeting failed to formulate a detailed scheme for presentation to the various governing bodies, and it seemed probable that the matter would thus be allowed to pass into abeyance. So far as the Western Infirmary is concerned, however, this anticipation has proved to be inaccurate. At a recent meeting of the Board of Managers of the infirmary it was resolved that the senior staff, consisting of the visiting physicians and visiting surgeons, the two physicians for diseases of women, and the pathologist, should be constituted an advisory committee for the current year, in order that the board may obtain its opinion on matters which may arise from time to time and be referred to it by the board for consideration and report. This is so far satisfactory, seeing that it will secure an official statement of the views of the staff on important professional questions arising in connexion with the management of the hospital. The recently instituted department for the treatment of lupus, &c., at the Western Infirmary is exciting a considerable measure of interest and is attracting patients from various parts of the country. The infirmary possesses favourable opportunities for securing continuous observation of the effects of the treatment as it has two wards for the reception of cases of skin disease.—The usual annual meeting of the nurses of the Royal Infirmary took place in the hall of the dispensary on Jan. 1st. Addresses were delivered by the Lord Provost and by Mr. J. D. Hedderwick. The latter made special reference to the two new operating theatres which are in course of erection and to the donations which had been received through Dr. M'Intyre for the building and equipment of an electricity pavilion.—On Jan. 1st also the annual meeting of the nurses of the Victoria Infirmary took place in the board-room of the institution. Mr. John Paterson reviewed the progress of the infirmary since its foundation and made appreciative reference to the work of Dr. A. L. Kelly and Dr. James Dunlop, both of whom had died during the past year, and who were for many years governors of the hospital. Thereafter the company adjourned to the new wing which was declared open by Mr. Cameron Corbett, M.P. This contains two new operating theatres, a special electricity room, and four wards. The accommodation of the hospital is thus increased to 180 beds.—Sir Donald Currie has given £1000 to the Greennock Infirmary.

The Aberdeen University Extension Scheme.

A meeting of the general committee of the Aberdeen University Extension Scheme was held on Jan. 3rd in the Mitchell Hall, Marischal College, for the purpose of receiving a report from the Executive Committee as to the appeal for funds. Principal Lang presided. The honorary treasurers reported that the total amount of subscriptions intimated to them was £26,942 *2s.*, of which £5345 had been received. The total number of separate subscriptions may be stated at less than 800. Principal Lang intimated a special subscription of £3000 from Colonel Cooper (Elgin), bringing the total sum up to £29,942 *2s.* With characteristic promptitude Lord Strathcona has transmitted his cheque for £25,000, and this is accompanied by a letter the terms of which clearly indicate the sincere interest which is felt by the Lord Rector in the appeal that has been so warmly supported. The following is an approximate summary of the money subscribed since the present scheme was launched 10 years ago. Result of first appeal: Government grant, £40,000; Dr. Mitchell's contribution, about £36,000; and public subscriptions, £40,000. Result of present appeal: Lord Strathcona's subscription, £25,000; Mr. Charles W. Mitchell, £20,000; public subscriptions, £30,000; and cost of New Greyfriars Church (defrayed by Town Council), £10,000. A total of £200,000 has thus been obtained from all sources. The site of the new front block is being rapidly cleared, whilst the building of the New Greyfriars Church, along the Queen-street side, is being carried on with all speed.

Arts Class, 1880–1884.

The sixth triennial reunion of this class was held in the Palace Hotel, Aberdeen, on Jan. 3rd, the Rev. G. M. Reith, Free St. Cuthbert's, Edinburgh, being in the chair. The following medical members of the class were present: Dr. A. T. G. Beveridge, Dr. A. R. Galloway, Dr. R. G. McKerron, Dr. J. S. Riddell (Aberdeen), and Dr. G. C. Milligan (Forres). It was resolved to publish the class album prior to next reunion. A very successful meeting closed with the singing of "Auld Lang Syne."

Jan. 7th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Public Health of Dublin.

THE notes on the "Health of Dublin" and on its death-rate published every week in THE LANCET show that the condition of the city, as appears from the recent returns, has undergone much improvement when compared with the records of former years. There would seem to be a positive, and so far a permanent, improvement in its death-rate—a matter which was much to be desired, for the rate was at one time exceptional and a disgrace to our public health department. Matters have certainly improved and the number of deaths in Dublin can now fairly compare with that of other towns in England or Scotland. Sir Charles Cameron, C.B., medical officer of health of Dublin, stated in connexion with a Local Government Board inquiry on Dec. 17th, 1901, that the public health of Dublin had been much improved by recent expenditure. He said that during the period between 1876 and 1880 the death-rate from all causes was 33·3 per cent., and during the decade ending 1900 29·6. We seem still, however, not to have much ground for congratulation. Scarlet fever causes many deaths, and diphtheria—which was quite rare in Ireland 10 years ago—is now claiming an increasing number of victims year after year. It has gradually invaded this country—coming apparently from England—and it now prevails more especially along our eastern coast. It would thus rather seem as if the bacillus took its trip across the

Irish Channel, not personally conducted, but with the easterly wind blowing from England—a wind that all good Irishmen have reason to dislike. There are now 39 cases of diphtheria under treatment in the Cork-street Fever Hospital. As to small-pox, a disease which has never been stamped out in the British Isles, one of the most important recommendations of the Cadogan Commission which was appointed to inquire into the causes of the exceptionally high death-rate of Dublin and to suggest means of lowering it was that a hospital should be built outside the city boundary for the isolation and treatment of small-pox. No such hospital has been provided. On Dec. 18th, 1901, 546 cases are reported to have been under treatment in the London hospitals. If the disease comes here, and if its victims are housed inside Dublin, it seems probable that the citizens will suffer and practically certain that the inhabitants of the particular area in which the patients are treated will suffer. Many experiments have been tried with that disease in Dublin, and we now have reason to know its striking distance only too well. In the meanwhile nothing is being done to give it when it does come a wider berth.

Royal Victoria Eye and Ear Hospital, Dublin.

The new buildings in connexion with the Royal Victoria Eye and Ear Hospital have now been commenced in Adelaide-road, Dublin. It will be remembered that about four years ago an Act of Parliament was passed by which the two ophthalmic hospitals of Dublin were amalgamated and their funds united—St. Mark's Ophthalmic Hospital, Lincoln-place, which was founded in 1844, and the National Eye and Ear Infirmary, Molesworth-street, which was established in 1814. Since the amalgamation of the hospitals the joint council thus formed has purchased a site in Adelaide-road free of rent for ever and has, as stated above, commenced the erection of a portion of the extensive buildings required.

City Hospital for Diseases of the Skin, Dublin.

Many patients in this hospital suffering from lupus and allied affections are at present being submitted to the Finsen light cure. The managing committee reports that it cannot extend this system of treatment to numerous applicants seeking admission until it is in command of larger funds. The Right Hon. T. C. Harrington, M.P., Lord Mayor of Dublin, and Sir Charles Cameron, C.B., are honorary treasurers to the fund, to which there have already been many subscribers.

The William Smyth Memorial Fund.

The Belfast contributions to the above fund amount to over £1100, and this sum when added to the £3000 collected elsewhere will, when invested, afford a small return annually until the children of the deceased practitioner have attained ages when they can make some monetary contributions themselves to their mother. It is satisfactory to note that the Right Hon. A. J. Balfour, M.P., has procured a grant of £200 from the Royal Bounty Fund in aid of the fund.

Christmas at the Belfast Hospitals.

At the various hospitals in Belfast the patients were entertained in the usual way at Christmas. There was an immense number of visitors at the Belfast Hospital for Sick Children on Dec. 27th, when the Marchioness of Dufferin and Ava, in the surgical ward, and Lady Dixon (the Lady Mayoress) in the medical ward, distributed the gifts from the Christmas-trees which were provided by friends of the institution for the children.

New Technical College for Belfast.

The City Corporation of Belfast on Dec. 30th, 1901, adopted the plans for the new technical college for Belfast and authorised an application to be made to the Local Government Board for Ireland for its sanction of a loan of £85,000 to carry out the work.

The Visit of the King and Queen to Ireland.

The Lord Mayor of Belfast having written to the Lord Lieutenant of Ireland in reference to the proposed visit of the King and Queen to Belfast, the object being to lay the foundation-stone of the new Royal Victoria Hospital (to be erected as a Jubilee memorial of the late Queen Victoria), a reply has been received that nothing has been so far arranged and that all the rumours are conjectures without any foundation. It is felt in Belfast that in order that due and fitting arrangements should be made for the royal visit sufficient and lengthened notice should be given by the authorities beforehand.

The Nursing Question in the Armagh Union.

The point at issue as to whether or not the Armagh guardians should appoint as an assistant in the infirmary a trained nurse or a probationer (the guardians were prepared to appoint the latter, but to this the Local Government Board for Ireland would not consent) has been settled by the guardians informing the Local Government Board that they were at length prepared to appoint a qualified nurse and one wardsman upon the Board undertaking to withdraw its sealed order calling upon them forthwith to appoint a qualified assistant nurse and three wardsmaids to assist in the infirmary and fever hospital. The guardians on Dec. 31st, 1901, appointed a fully-trained nurse in the fever hospital.

Health of Belfast.

At a meeting of the Belfast City Council on Jan. 1st, it was reported that there was a great decrease in the number of cases of typhoid fever. The death-rate per 1000 from all causes during the past year was 21·9, while the average for the previous 10 years was 24·8. There are also a decrease in diseases of the chest and a diminution in the death-rate from zymotic diseases.

Rainfall in the North of Ireland in 1901.

The year just gone has been on the whole for the north of Ireland a fine one, the total rainfall being 39·15 inches (the smallest amount since 1893). The dryness of May and July was noticeable, but the last three months of the year (October, 4·73 inches; November, 4·11; and December, 4·69) converted by a total fall of 13·53 inches what might have turned out an exceptionally dry year into a normal one.

Royal Victoria Hospital, Belfast.

Sir Donald Currie has given £1000 towards the endowment fund of this hospital. Of the £100,000 guaranteed for the building fund £92,589 have been paid, and over £7000 have accrued in interest on the money deposited in the bank.

Jan. 9th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Dr. Doyen and the Microbe of Cancer.

THE Academy of Medicine has been considering recently a paper laid before it by Dr. Doyen, in which that eminent surgeon announces the constant presence of a new microbe in cancerous tumours—a microbe which after a patient research of 14 years he has been able to isolate and to cultivate. The discovery of the pathogenic microbe of cancer has been often announced before; but Dr. Doyen has not taken the risk of his statement without being sure of his ground and has in no way lightly wagered his reputation. The microbe appears in the form of motile diplococci, one coccus of which is sometimes four or five times as big as the other. Dr. Doyen has managed to cultivate these cocci in tubes of gelatin and of gelose, with the addition of a special nutritive bouillon. Two specimens of cancerous tumour taken from very different organs gave out of 250 tubes inoculated 50 positive results—i.e., 50 pure cultures of diplococci. The growth appeared as a rule within from 24 to 48 hours, but sometimes not until four or five days had elapsed. Besides the diplococcal form the microbe appeared in the form of short chains which sometimes grew in the shape of a Y. On gelose the microbe appeared as a whitish-grey growth, which when taken up by the platinum needle went into thick viscous filaments. In sections of the growth the microbe was difficult to find. It was more easily found in the affected glands and in those secondary growths which were furthest from the original growth. It is found in the blood in exceptional cases of cancerous fever, and in lymphangitis due to cases of pseudo-ervsipelatous cancer. Dr. Doyen found the microbe in great purity in a secondary tumour of the pericranium which appeared two years after the removal of a cancer of the breast, in which case there was no local recurrence. It was also found in a serous discharge from the nipple of a woman who had no tumour of the breast, but who was

still under observation. Cultures injected into animals produced a very intense epithelial inflammation which was followed by the formation of adenomata. In reality the microbe brings about increased growth of those cells with which it comes in contact. The cells appear to multiply by a kind of inflammation, but the white corpuscles do not present the usual phagocytic phenomena. There are also to be found in the case of glands in connexion with a tumour, which are swollen but not obviously infected, certain cells full of microbes which are difficult to stain. Dr. Doyen found his "micrococcus neoformans" in the juice from a mammary tumour in a bitch and in the juice of various tumours in human beings, such as sarcomata, cystic tumours of the breast, and in slowly growing and sclerosing epithelial tumours. From these last no cultures could be obtained. All those cases which gave positive results in the culture-tubes were cases in which recurrence occurred with great rapidity. The points of recurrence, secondary tumours and affected glands, yielded similar cultures to those of the original growth. In the case of very malignant tumours cultures were obtained, provided that suitable media were used, in about 24 hours. Subcutaneous injection of the toxin of this microbe, attenuated in a special manner which Dr. Doyen has not yet made public, brings about, especially in the affected glands, a reaction similar to that produced in tuberculous glands by tuberculin. Post-operative injection of this toxin has given satisfactory results which have endured for six months, but Dr. Doyen adds that these results must be confirmed by further observations. These injections must not be given in the case of very large rapidly-growing tumours, for in such cases they produce a violent reaction comparable to that brought about in local masses of tubercle by the first tuberculin of Koch. On the other hand, these injections appear to have given good results in patients who have been operated upon and in whom no growth is left as far as can be ascertained. In such cases the injection appears to prevent recurrence.

The Laws as to Public Health.

For more than 10 years the question of a public health regulation has been sent backward and forward between the Chamber of Deputies and the Senate without anything being done. However, on Dec. 16th, 1901, a Bill passed the Chamber of Deputies in a very thin house, and yet none of the ordinary political journals and hardly any of the medical journals even so much as mentioned the fact. But the new law certainly raises very burning questions, for among other points it abolishes the professional secrecy of medical men, at least in part, for they are obliged to notify every case of infectious disease. It attacks personal liberty, for it makes vaccination and revaccination obligatory. It attacks property, for furniture and other personal articles which may be infected have to be destroyed, and it deals with the construction of houses. It also creates new taxes, for the expenses of putting into a hygienic condition or of disinfecting houses and other articles will be met by a charge upon the State or upon departmental or communal bodies.

Human Tuberculosis Inoculable in Animals.

At the meeting of the Academy of Medicine held on Dec. 24th, 1901, M. Arloing reminded the meeting that at the British Congress on Tuberculosis recently held in London Professor Koch had put forward the opinion—an opinion which created a great deal of excitement—that human tuberculosis was totally different from the tuberculosis which occurred in ruminants and so there was no need to fear that tuberculosis could be transmitted from cows and such like animals to man by the agency of milk or meat. Professor Koch specified various differences which exist between human tuberculosis and that of bovine animals. Such differences were admitted by all observers, but they were by no means sufficient to afford grounds for a radical distinction. The two principles upon which Professor Koch based his argument were the following. The bacillus of human tuberculosis could not be inoculated into animals of the bovine, ovine, or porcine species, although the bacillus of bovine tuberculosis readily infected both sheep and pigs. Bovine bacilli, however, did not produce tuberculosis in man. M. Arloing had attempted to verify these results and to find out if human tuberculosis could not be transmitted to animals. Using intravenous inoculations of a pure culture of the human tuberculosis bacillus, he had managed to produce certain forms of tuberculosis in 23 animals, such as calves, sheep, goats, asses, and bullocks, which were stated to be immune to human tuberculosis by Professor Koch. There was, therefore, evident ground for saying that the bacillus of human tuberculosis and that of animal tuberculosis were the same as the bacillus of Koch. For the present, then, it was obviously a wise precaution to maintain the various regulations in force with regard to meat and milk which were suspected of containing the tuberculosis bacillus.

Jan. 7th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

"Gasu-Basu": a New Local Anæsthetic.

A NEW local anæsthetic obtained from an Indian plant, called "gasu-basu," has recently been submitted to careful examination by some Hungarian dentists—Professor Arcövy, Dr. T. Madzsar, and Dr. B. Balassa of Budapest. The anæsthetic action of this substance was discovered a year ago by a dentist in Fiume, Dr. D. Dalma, who tried the effect of gasu-basu in cases of painful pulpitis, and recommended it as a powerful agent which might replace arsenic in the treatment of that condition. Dr. Dalma also separated the active principle of the plant, which proved to be an alkaloid, and in his later experiments he used the salt obtained by treating the alkaloid with hydrochloric acid. This salt has been named "nervocidine" and its pharmacological properties have been investigated in Professor von Bokay's laboratory in Budapest by Dr. B. von Fenyvessy who obtained the following results. Nervocidine is a yellow, hygroscopic powder easily soluble in water, less soluble in ether and alcohol. The aqueous solution froths if shaken and gives all the reactions of an alkaloid. Nervocidine is amorphous and cannot be obtained in a crystalline state. In weak solutions (one-tenth or one-twentieth per cent.) nervocidine produced a marked local anæsthesia of the cornea of warm-blooded animals. Two drops of a one-twentieth per cent. solution applied to the human conjunctiva produced a burning sensation accompanied by lacrymation and followed after 20 minutes by anæsthesia of the cornea lasting for five hours. After seven hours the cornea regained its normal condition. A one-tenth per cent. solution of nervocidine brushed over the mucous membrane of the cheek caused local anæsthesia of the brushed surface and of the tongue accompanied by loss of the sensation of taste and the perception of touch, but without loss of the perception of heat and cold. Solutions of a strength exceeding one-half per cent. produced irritation of the cornea, and by application of a two per cent. solution to the cornea of rabbits and dogs a severe ulcerative keratitis, lasting from five to 10 days, was produced, but on the twelfth day this keratitis was entirely gone. The anæsthesia of the cornea persisted during the whole course of this keratitis and the sensibility returned with the recovery of the cornea which did not afterwards show any trace of the previous inflammation. Attempts to produce local anæsthesia by subcutaneous injections of nervocidine in animals have not yet been successful. The general action of nervocidine on the system was that of a poison producing death by paralysis of the motor centres of the nervous system and of the peripheric nerves. All the experiments proved that nervocidine was a powerful local anæsthetic which had the advantage of producing a much more sustained action than cocaine, for the effect of a one-half or one-fifth per cent. solution might last for two or three days. It is, however, not without its drawbacks, such as the local irritation to which it gives rise, the slow production of the anæsthetic state (from 10 to 20 minutes being required), and a liability to the occurrence of nausea, vomiting, salivation, and other symptoms of general poisoning. Nervocidine is an interesting addition to the list of local anæsthetics, but its practical application is at present restricted to the purposes of dentistry. In the treatment of pulpitis it has been found particularly useful in the Budapest dental clinics.

Sporadic Elephantiasis.

Elephantiasis is very rare in Austria, but an interesting case of this disease was recently shown by Dr. Farvarger at a meeting of the Wiener Gesellschaft der Aerzte. The patient, a young man, aged 25 years, had always resided in an Alpine village, Aussee, in Styria, and had been healthy up to the age of 15 years. In the year 1891 he suffered from pleurisy and slight œdema of the feet, and in the course of

the next two years he had three attacks of pleurisy in the left side. In 1897, when he came under the care of Dr. Farvarger, he suffered from œdema of the lower extremities and of the skin of the lower part of the abdomen, and dilatation of the right heart. Frequent attacks of erysipelas afterwards occurred in the lower extremities, which commenced to swell more and more. There were no albumin in the urine, no chyluria, and no lymphorrhœa. Repeated examination of the blood proved the absence of any parasites, such as filaria sanguinis. From 1896 onwards the swelling of the lower extremities became enormous, especially on the left side, the circumference of the left leg being 24 inches in May, 1896, 26 inches in July, 1896, and 30 inches in August, 1898. When the patient was shown before the society the following circumferences were measured: left leg (near the malleolus), 24 inches; left calf, 35 inches; lower part of left thigh, 38 inches; upper part of left thigh, 50 inches; right leg (malleolus), 22 inches; calf, 27 inches; and thigh, 19 inches. On the back of the left thigh the elephantiasis of the skin formed a tumour of the size of two human heads and there was a second tumour on the left calf. The skin of the affected parts showed the characteristic properties of thickening due to elephantiasis, but the skin of the feet, which showed only slight œdema, was nearly normal. The enormous distension of the limbs was accompanied by a corresponding increase in the patient's weight which amounted to 280 pounds. Various therapeutic means had been tried without success and surgical intervention was contemplated.

Jan. 4th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Sanatorium for Tuberculosis in Toronto.

A FEW weeks ago it was decided by the local board of health of Toronto, on the advice of the medical health officer, that a by-law should be submitted to the people at the coming municipal elections in January for the sum of 50,000 dols. for the purposes of a sanatorium for consumptive patients. Affairs were beginning to get into a tangle between the city health authorities, the Anti-Consumptive League, and the National Sanatorium Association, when the latter came forward with a definite plan of campaign and announced that it would have accommodation for 100 patients from the city of Toronto within a twelvemonth. In the meantime a city physician has addressed a letter to the mayor drawing attention to the fact that the city hospitals have closed their doors against consumptive patients and that these unfortunate individuals practically have to shift for themselves. It appears likely that the hospitals will have to set apart wards for the reception of these patients until the sanatorium is ready to take up the work.

Appendicitis in British Columbia.

At the first annual meeting of the newly organised British Columbia Medical Association Dr. J. C. Davie of Victoria, who was the president of the association, contributed a very interesting and able paper on the subject of appendicitis, the first paper on this subject which has been published by a British Columbian practitioner. The paper appears in the November issue of the *Dominion Medical Monthly* and the cases constitute, without selection, all those which have come to the personal attention of Dr. Davie since the year 1893. During that time he has operated on 105 cases of appendicitis with six deaths and 99 recoveries. Of cases of general septic peritonitis he has had 15, four dying and 11 recovering. Dr. Davie certainly has had excellent results, considering the fact that he never refused to operate even in the worst class of cases.

Small-pox in Quebec.

Under date Nov. 29th the Board of Health of the Province of Quebec has issued a statement showing that in that province there had been 81 places where small-pox had broken out and that in all there had been 340 cases up to that date. In Montreal alone there had been over 30 cases. Numerous and special instructions have from time to time been issued by the Health Department of the province with regard to vaccination of the employés of industrial establishments, pupils at schools, and lumbering men about to go into the woods for the winter's work, but in spite of all contagion continues to spread and the province is threatened with a very extensive outbreak of the disease. One or two cases of tetanus are reported as following on the employment of impure lymph in vaccination. The Health Department recommends only glycerinated vaccine.

Toronto Clinical Society.

At the regular meeting of this society held on Nov. 6th Dr. George A. Bingham and Dr. J. T. Fotheringham reported a case of thyroidectomy in a female, aged 30 years. The operation was performed by Dr. Bingham who made an incision obliquely from the left mastoid process to the sternum, the cavity being obliterated by several rows of catgut sutures by quilting. For subsequent tachycardia both gentlemen spoke very highly of the favourable results obtained by the use of the ice-bag to the præcordia. Dr. J. Algernon Temple reported at the same meeting a case of Paget's disease of the nipple and showed the pathological specimen. He removed the entire breast from an unmarried woman, aged 45 years. There was no glandular enlargement in the breast a year prior to its removal.—At the next regular meeting, held on Dec. 4th, Dr. Graham Chambers showed a man, aged 50 years, an engineer, whom he considered to be the subject of blastomycosis, although as yet he had not been able to demonstrate the fungus under the microscope. The lesions appeared on the nose, the cheeks, the upper lip, and the backs of the hands. They were undergoing marked improvement under large doses of iodide of potassium. An interesting case of menorrhagia which baffled all treatment was reported by Dr. R. B. Nevitt, while Dr. A. J. Harrington reported a case of mushroom poisoning with recovery. Dr. J. F. W. Ross, the President, showed several specimens, one being a cystic kidney, while another was a case of double ectopic gestation occurring in a patient at the same time. On one side the pregnancy had advanced to three and a half months and had ruptured; on the other side pregnancy had advanced about a month or six weeks. Although *in extremis* on the operating table the patient made a good recovery. Dr. Ross also reported that ectopic gestation re-occurring in the same patient had been observed by him four times.

Dec. 7th, 1901.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

X-Ray Photographs.

IN a case of personal injury the Supreme Court of Wisconsin has decided that the rule affecting photographs taken by ordinary process and used in the trial of a cause for the better understanding by the jury of the evidence submitted in the case shall hold good in the case of photographs taken by the x-ray method. The trial judge is to be the one to decide whether or not a photograph is proper in a particular situation upon the trial of the case, and this decision being based upon reasonable ground it must stand. In this particular case a physician, qualifying as an expert in taking x-ray photographs, testified that he had made an examination of the patient's wrist and hand by means of the x-ray process and later had taken two photographs which gave a perfectly correct representation of the bones. The photographs were offered and accepted as evidence, notwithstanding the protest of the opponent. The case was that of Mauch *v.* the City of Hartford. The objection was based upon the plea that the pictures were taken without notice to the city or its counsel. The court announced that it knew of no regulation requiring notice of the taking of a photograph to be used by one party in the trial of a cause by the adverse party in order that the latter may be represented at the time of such taking necessary to its acceptance in evidence. It is entirely proper for the trial of causes for some purposes that photographs be exhibited to facilitate the understanding of the jury of some objects otherwise obscure; they are used to enable the court and jury more clearly to understand the particular location or object material to the litigation than could be made lucid by mere oral description or explanation, and the object being quite permissible the court may use its discretion as to whether they shall be admitted. Such a case exists when it is necessary for a non-expert to comprehend the complicated structure of the human anatomy and the presence of foreign bodies in the human body or of any abnormal condition. Since the discovery of the x-ray

process it has several times been employed in laying bare the human frame and then photographing the appearance thereof, as in the case of ordinary photographs. The courts are bound to use every possible means of discovering the truth, and to that end every new discovery which has passed the experimental stage must be looked upon as a new aid in the administration of justice in the department it covers. The courts have never failed to avail themselves of the art of photography by the x-ray process in proper cases.

Insurance against Suits for Malpractice.

The State Insurance Commission of Minnesota rules that general casualty indemnity companies may write contracts insuring physicians against loss from damages in suits for malpractice. A test case in Massachusetts was the ground of the State officials' decision that such protection is needed, not so much by inexperienced and unskilful physicians as by the best and most successful of their number as a protection against blackmail. It has come to pass in some sections that the frequency of damage suits against physicians and hospitals has rendered the practice of medicine, and especially surgery, absolutely perilous, and some good operators have seriously considered giving up the practice of medicine. Many unjust verdicts have been rendered in favour of alleged injured persons and the general public usually favours this class. It has been considered adverse to public policy to put limitations upon such prosecutions or to permit insurance against them; but it would certainly be still more against public policy to allow honest surgery to be discouraged by encouraging blackmail, and popular prejudice is apt to do this very thing. A surgical operation or a medical treatment of a case depends for success upon numerous possibilities beyond the personal control of the practitioner to make their outcome a certainty in any particular case. An unfortunate termination of the case is therefore, as held by the Court of Massachusetts, to be considered an accident in the absence of proof to the contrary, and it is therefore quite legitimate to insure against such a possibility in a casualty insurance company.

Tetanus and Vaccination.

Owing to the public alarm due to deaths from tetanus after vaccination the State Board of Health of Pennsylvania adopted the following motion:—"In view of the very natural public apprehension regarding the possibility of tetanus following vaccination, as illustrated by recent cases of this accident in a neighbouring State, this Board desires to state its conviction, based upon a careful study of vaccination and of the cases referred to, that it has yet to be demonstrated that vaccine virus ever contains or becomes contaminated with the germs of tetanus. When such occurrences as those referred to take place it is because, owing to carelessness usually on the part of the person vaccinated, the germs of tetanus have gained access to the wound on the arm, as they may to any other wound, abrasion, or scratch upon the surface. There is no reason for dreading or abstaining from vaccination because of these recent cases. This is sufficiently demonstrated by the fact that more than half a million persons have been vaccinated in and around the city of Philadelphia within the last few months without the occurrence of a single case of tetanus. Inasmuch as new cases of small-pox are being reported to the Board daily from all parts of the State the present would be a most unfortunate time to interrupt the general vaccination which is now in progress."

A Rat Crusade in Honolulu.

It being a well-established fact that plague is often carried ashore from infected vessels by rats it is wise in the health authorities to inaugurate a crusade against rats when there is little or no plague within their borders. Through the efforts of Dr. Pratt, the executive officer of the Territorial Board of Health, a crusade has been enacted by mapping out Honolulu with an inspector to each district who distributes traps and poison, sees that they are used properly, deodorises the traps, and collects all the rats. The district as a whole is under two superintendents. The method of extermination is confined to traps, poisons, and sulphur fumigation; the rat-bounty methods are not used. All rubbish is cleared up and burned; all warehouses are made air-tight for sulphur fumigation; all inter-island vessels are fumigated; the clearing up of wharves includes cleaning underneath the same. All rats are kept according to districts and examined bacteriologically for the purpose of determining whether or not a certain district is infected and in need of special attention.

Dec. 29th, 1901.

Obituary.

HENRY GEORGE MADAN, F.C.S.

ALL students of chemistry, and especially those who studied the science at Eton under the direction of Mr. Henry George Madan, will learn with much regret of his death which took place at Gloucester on Dec. 22nd, 1901. Mr. Madan was born in 1838, and was educated at Marlborough College, where he obtained an open exhibition at Corpus Christi College, Oxford, in 1857. He acted as assistant to Sir Benjamin Brodie for some time, and was then appointed Professor of Chemistry at Queen's College. He was afterwards appointed master in chemistry at Eton, a post which he held for 20 years. He was joint author, with Mr. A. G. Vernon Harcourt of Christ Church, of "Exercises in Practical Chemistry," and wrote also several smaller works on Physics and Chemistry. A short time ago Mr. Madan was knocked down by a railway-truck in the docks at Gloucester, the injuries which he sustained necessitating the amputation of his right arm. He never seemed to recover from the severe shock which he received, his health giving way completely. Mr. Madan was an excellent, able, and impressive teacher. He possessed unusual manual dexterity, was an excellent glass-blower, and a first-rate and clever worker in the laboratory. He was most skilful with the lathe and an accomplished turner. All who came in contact with Mr. Madan preserved the kindliest recollections of him and will hear with sad feelings of the terrible accident which befell him and which undoubtedly hastened his death.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Hans Hensen, *privat-docent* of Medicine in the University of Kiel.—Dr. Nicolás Homs y Pascuets, Clinical Professor of Medicine in Barcelona.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At the Primary Examination the following candidate have passed in the subjects indicated:—

PART II.

Anatomy.—H. Bennett, Manchester; J. Cree, Belfast; T. L. A. Jones, Cardiff; P. J. Martin, St. Bartholomew's Hospital; and E. Renouf, Royal Free Hospital.

Physiology.—J. Cree, Belfast; E. P. J. Dawes, Birmingham; A. G. C. Findlay, University College Hospital; E. Renouf, Royal Free Hospital; F. A. K. Stuart, St. Mary's Hospital; and T. R. Waltenberg, Manchester.

FOREIGN UNIVERSITY INTELLIGENCE.—*Cracow:* Dr. Leon Krynski, *privat-docent* of Operative Medicine, has been promoted to an Extraordinary Professorship.—*Kiel:* Dr. R. Göbell has been recognised as *privat-docent* of Surgery.—*Paris:* Dr. Gilbert, *agrégé*, has been appointed Professor of Therapeutics.

LOW ANNUAL DEATH-RATE IN CHICAGO.—During the 51 weeks ended on Dec. 21st, 1901, a total of 23,625 deaths was recorded in Chicago. At this rate the total deaths in Chicago for the year 1901 would not exceed 24,300, and calculated on the minimum mid-year population according to the estimate of the United States Census Office—namely, 1,758,000—the annual death-rate per 1000 for the year would be about 13·8, which is said to be the lowest ever recorded for that or any other city of more than 1,000,000 population. The lowest previous rate—based on the United States census figures of population—was 14·36 per 1000 in 1897. For the previous 10 years—i.e., the period 1890–1900—the average mortality-rate was 17·67 per 1000.

VACCINATION AT GLOUCESTER.—At the meeting of the Gloucester Board of Guardians held on Dec. 31st, 1901, it was reported that there were 850 vaccination defaulters in the district between Jan. 1st, 1899, and Sept. 1st, 1901.

CHELSEA HOSPITAL FOR WOMEN.—The new year's entertainment arranged by the ladies' committee for the patients and nurses was given on Jan. 4th, when the following artists kindly gave their services:—Miss Nellie Ganthony, Mr. Lionel Brough, Miss Vera Beringer, Mr. Mercer Adam, Miss Ada Webster, Miss Kinnison, and Mr. Rohan Clency. The wards and corridors were prettily decorated and the patients seemed thoroughly to enjoy the songs, recitations, and musical sketches. The patients' tea had been given on new year's eve, when many of the ladies' committee were present. The nurses held their concert on Dec. 29th.

THE CLERICAL, MEDICAL, AND GENERAL LIFE ASSURANCE SOCIETY.—The bonus report of this society which was presented to the extraordinary meeting held at the offices, 15, St. James's-square, London, S.W., on Jan. 2nd, shows that the society divides the large surplus of £597,415 in respect of the past quinquennium. During the past five years the new assurances amounted to 4043 in number, assuring £2,907,556, as compared with 3810 policies assuring £2,819,894 in the preceding period. The rate of interest earned was very satisfactory in view of the high character of the investments. It increased slightly but steadily in each of the last three years and averaged £3 16s. 8d. per cent. for the whole period. The claims by death were 1437 in number and, including bonuses, £1,143,321 in amount. The total expenses of management were £12 14s. 9d. per cent. of the premiums, as against £13 11s. per cent. in the preceding period.

THE WOOLWICH, PLUMSTEAD, AND CHARLTON MEDICAL UNION.—At a meeting of the above union held on Dec. 18th, 1901, the following motion was unanimously agreed to:—"That vaccination should be dealt with as a sanitary question affecting the welfare of the community on similar lines to those now in force for the notification of infectious disease, and that it is derogatory and injurious to compel a medical man by law to do an unprofessional act—viz., to call at the houses of his fellow practitioners' patients and offer professional service. The members of this union therefore respectfully submit: first, that vaccination should be placed under the control of the sanitary authority and be removed from the category of Poor-law relief; and, secondly, that the operation and certification of successful public vaccination according to the legal standard should be open to all registered medical practitioners, and that the authorised fee should be payable to such medical practitioners by the sanitary authority in all cases where the legal standard was complied with."

A PATIENT'S PREFERENCE FOR AN UNQUALIFIED MEDICAL MAN AND ITS CONSEQUENCE.—The Derby borough coroner (Mr. John Close) recently investigated the circumstances surrounding the death of Charles Nicholson, aged 52 years, who died on Dec. 31st, 1901. The coroner had adjourned the case for inquiries to be made as the result of a communication which he had received from Dr. Parry-Jones, and because Mrs. Nicholson had stated that her husband had been taking medicine and using ointment supplied to him by Captain Feilden, of the Crimson Cross Dispensary. No charges were made for the remedies supplied, but a box was placed against the door at the dispensary so that persons visiting the establishment might make voluntary contributions. The widow of the deceased, in her evidence, stated that Captain Feilden first saw him about 12 months ago. He had called upon him on different occasions and when he saw him the last time about a month previously he told the deceased that he ought to see a medical man. The deceased, however, would not do so. She asked him to have a medical man but he declined. A neighbour also gave evidence as to Nicholson's strong objections to a doctor, and Captain Feilden deposed that he attended the deceased for bronchitis and another complaint. He also had something the matter with his heart and witness advised him to see a doctor.—The Coroner: Then you thought it was a case for a properly qualified practitioner?—Witness: I thought he would require someone to give him a certificate when he died. A doctor was no good for any other reason.—Dr. Parry-Jones deposed to making a post-mortem examination and finding that death was due to aneurysm. In all probability if Nicholson had had a qualified medical man to attend him he would have lived longer as the aneurysm was of long standing.—The Coroner: If he refused to have a doctor what could be done for him?—Dr. Parry-Jones: Nothing. The jury returned a verdict to the effect that death was due to an aneurysm.

DR. C. KILLICK MILLARD, medical officer of health of the borough of Leicester, is the President-elect of the Midland Branch of the Incorporated Society of Medical Officers of Health.

DR. CHARLES A. WEST of Bodmin was, at the Cornwall Quarter Sessions held on Dec. 31st, 1901, appointed visitor to the county prison in the place of the Earl of Mount-Edgcumbe, resigned.

DEATH FROM BURNS.—An inquest was held at Exmouth on Dec. 30th, 1901, upon the body of a man who had suffered from gout and was lighting a cigar on Dec. 21st when some cotton-wool which was wrapped round his hands caught fire. He was severely burnt and he died on Dec. 28th. A verdict of "Accidental death" was returned.

THE LATE MR. EDWARD STOCK.—The committee of the Bristol Dispensary in the annual report for 1901 which has just been issued, allude with much regret to the death of Mr. Edward Stock, M.R.C.S. Eng., which occurred at Clevedon, Somerset, on Nov. 18th, 1901. The deceased who was 81 years of age had been for 34 years connected with the Bristol Dispensary, first as secretary and subsequently as a member of the managing committee.

DONATIONS AND BEQUESTS.—By the will of Mr. Henry Duncalfe, M.R.C.S., of Tudor-hill, Sutton Coldfield, Birmingham, £1500 are left in trust to found a "Duncalfe Exhibition" in Sutton Coldfield Grammar School, and £5000 in trust to found a "Duncalfe Benevolent Fund" under the Birmingham Medical Benevolent Society. £5000 have also been left to the Royal Medical Benevolent College at Epsom to found "The Duncalfe Trust," and the income of the sum of £5000 is to be applied for the benefit of unmarried daughters, not under 50 years of age, of medical men. Bequests are left to the Birmingham General Hospital, the Queen's Hospital, the Eye Hospital, the Blind Asylum, the Orthopædic and Spinal Hospital, the Deaf and Dumb Asylum, the Knowle Asylum for Idiots, the Wolverhampton Orphanage, the Llandudno Sanatorium, the Llanfairfechan Convalescent Home for Men, the Royal Alexander Hospital at Rhyl, and the Home for Incurables at Leamington. It is estimated that more than £30,000 will be available for charitable purposes.

THE NEW GENERAL HOSPITAL, BIRMINGHAM.—At a meeting of the General Committee held at the General Hospital, Birmingham, on Dec. 31st, 1901, a report on the new hospital was read by the honorary secretary, Mr. Walter N. Fisher. He said that the preliminary steps to the erection of the new buildings were formally taken at a meeting held in the town-hall on Jan. 19th, 1891, when a committee with Sir John Holder as chairman was appointed to carry out the scheme. Designs for the new hospital were sent in by 12 selected architects, the consulting architect, Mr. Alfred Waterhouse, R.A., awarding the first place to Mr. William Henman. The builders were Messrs. T. Barnsley and Son. After a careful examination of buildings in which Mr. William Key of Glasgow had introduced the "plenum" system of ventilation combined with steam heating, the committee decided to adopt his methods and to employ his services. The ceremony of laying the foundation-stone was performed on Sept. 8th, 1894, by the Duke and Duchess of York, now the Prince and Princess of Wales, and on July 7th, 1897, the hospital was opened by Princess Christian. In the following October the patients were removed from the old to the new premises. The hospital contains 346 beds, of which 15 were dedicated to the memory of specified individuals. The sum required for the dedication of a bed is £1250. The total cost of the hospital, land, heating and ventilating, electric supply, furnishing and fittings, architect's commission, and general expenses was £219,459, as against receipts from subscriptions and bequests amounting to £206,841. The balance is more than covered by the proceeds of the sale of the old hospital and site.

ROYAL INSTITUTION.—The Christmas lectures this year consisted of six lectures (adapted to a juvenile auditory) on Waves and Ripples in Water, Air, and Æther, delivered by Professor J. A. Fleming, professor of electrical engineering in University College, London. At the second lecture delivered on Dec. 31st, 1901, the formation of waves in water by the motion of ships and boats was explained. At the fourth lecture delivered on Jan. 4th, numerous experiments were performed illustrating the principles of acoustic resonance and the structure of musical chords, and a lady played on Mr. Stroh's recently invented violin. This instrument, the tone and quality of which are almost identical with that of a violin of the ordinary construction is, however, of a very dissimilar appearance. Four strings of the usual description are stretched on a stout rod or bar which may be, but is not necessarily, of wood. There is no hollow wooden body or sounding box. The strings are tuned and played on in the usual way and pass over a bridge of the ordinary shape, having a slight lateral rocking motion on the bar against which it rests. A bent arm attached to one end of the bridge conveys the vibrations of the strings to the centre of an extremely obtuse cone of thin aluminium about five inches in diameter. The resonance of the instrument is produced by this metallic surface aided by a metallic bell about 12 or 13 inches long and six and a half inches in diameter at the open end.

BOOKS, ETC., RECEIVED.

CENTURY PRINTING CO., LTD., 19 and 20, Fetter-lane, E.C.

The War against Consumption. A popular handbook of the proceedings of the British Conference on Consumption, held in London, 1901. By Dennis Vinrace, M.R.C.S. Eng., L.S.A., Revised by John H. Vinrace, M.B. Lond., M.R.C.P. Lond. Price not stated.

COLLINGRIDGE, W. H. AND L., 148 and 149, Aldersgate-street, E.C.

Profitable Fruit-Growing for Cottagers and Small Holders of Land. Gold Medal Essay by John Wright, V.M.H., F.R.H.S. Written for the Worshipful Company of Fruiterers. Sixth edition. Revised and enlarged. Price 1*s.*

CHURCHILL, J. & A., 7, Great Marlborough-street, W.

A Short Manual for Monthly Nurses. By Charles J. Cullingworth, M.D., F.R.C.P. Fifth edition. Revised by the author with the assistance of M. A. Atkinson, matron of the General Lying-in Hospital, London. Price 1*s.* 6*d.*

A Short Practice of Midwifery for Nurses. By Henry Jellett, B.A., M.D., B.Ch., B.A.O. (Dublin University), F.R.C.P.I., L.M. Price 6*s.*

Nursing, General, Medical, and Surgical. With Appendix on Sick-room Cookery. By Wilfred J. Hadley, M.D., F.R.C.P., F.R.C.S., &c. Price 3*s.* 6*d.*

FISCHER, GUSTAV, Jena.

Chirurgische Operationslehre. By Dr. Th. Kocher of Berne University. Fourth revised edition. Price, paper, M13; cloth, M15.

GRIFFIN, CHARLES, AND CO., Limited, Exeter-street, Strand, W.C.

A Handbook of Hygiene. By A. M. Davies, M.R.C.S., L.S.A., D.P.H. Camb., Lt.-Col. R.A.M.C., &c. Second edition. Price 8*s.* 6*d.* net.

LEWIS, H. K., 136, Gower-street, W.C.

Handbook of Bacteriological Diagnosis for Practitioners. Including instructions for the clinical examination of the blood. By W. D'Este Emery, M.D., B.Sc. Lond. Price 5*s.* 6*d.*

Rough Notes on Remedies. By Wm. Murray, M.D., F.R.C.P. Lond. Fourth edition. Price 4*s.* net.

LONGMANS, GREEN AND CO., 39, Paternoster-row, E.C.

Directions for Class-work in Practical Physiology, Elementary Physiology of Muscle and Nerve, and of the Vascular and Nervous Systems. By E. A. Schäfer, LL.D., F.R.S. Price 3*s.* net.

MACMILLAN COMPANY, New York. London: MACMILLAN AND CO., LTD.

The Roentgen Rays in Medicine and Surgery as an Aid in Diagnosis and as a Therapeutic Agent. Designed for the use of Practitioners and Students. By Francis H. Williams, M.D. Harv. Price 25*s.*

MASSON ET CIE, 120, Boulevard Saint-Germain, Paris.

Le Médecin dans la Société contemporaine. Conférences de Déontologie. By MM. les Docteurs P. Le Gendre and G. Lepage. Price 2 fr.

SAUNDERS, W. B. AND CO., Philadelphia and London.

Nothnagel's Encyclopedia of Practical Medicine: Typhoid Fever and Typhus Fever. By Dr. H. Curschmann of Leipzig. Edited, with additions, by William Osler, M.D. Authorised translation from the German, under the editorial supervision of Alfred Stengel, M.D. Price not stated.

A Text-book of Pathology. Edited by Ludvig Hektoen, M.D., and David Riesman, M.D. Two volumes. Price not stated.

SMITH, ELDER AND CO., 15, Waterloo-place, S.W.

Therapeutics: its Principles and Practice. By Horatio C. Wood, M.D., LL.D. (Lafayette-Yale). Eleventh edition. Remodelled and in greater part rewritten by Horatio C. Wood and Horatio C. Wood, jun. Price 12*s.*

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

BEEGLING, DANIEL HENRY, B.A. Sydney, M.B., C.M. Edin., has been appointed Surgeon to the London and North-Western Railway Company for Huddersfield and District.

BROWN, A. TENNYSON, M.B., C.M. Aberd., has been appointed Medical Officer of Health to the Horbury Urban District Council, Yorks.

CHIPPERFIELD, THOMAS JOHN BURGOYNE PEARSE, M.R.C.S. Eng., L.R.C.P. & L.M. Edin., has been appointed Medical Officer and Public Vaccinator for the Eighth District of the Liskeard (Cornwall) Union, vice J. W. Gill, resigned.

CLARK, J., M.D. Aberd., F.R.C.S. Edin., has been re-appointed Medical Officer of Health for Lichfield.

COLLINSON, HAROLD, M.B., M.R.C.S., L.R.C.P., has been appointed Resident Surgical Officer to the General Infirmary, Leeds.

COLLINGWOOD, FREDERICK W., L.R.C.P. Lond., M.R.C.S., has been appointed Anæsthetist to the Samaritan Free Hospital.

CRIPPS, HARRISON, F.R.C.S. Eng., has been appointed Surgeon to St. Bartholomew's Hospital, vice Alfred Willett, resigned.

DENYER, STANLEY E., C.M.G., M.A., M.D., B.C. Cantab., has been appointed an Assistant Demonstrator of Anatomy in the University of Cambridge.

DICKMAN, HENRY GEO., M.B. Edin., has been appointed Medical Officer of the Urban District Council of Diss, Norfolk, and Public Vaccinator No. 5 District (Diss) of the Depwade Union, Norfolk.

FREEMAN, JOSEPH, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Surgeon with the troops in South Africa.

MACKENZIE, W. H., M.D. Edin., has been appointed Medical Attendant at the New Hospital for Infectious Diseases erected by the Kirkcaldy District Committee and district burghs near Thornton, Fife.

MCCANN, FREDERICK, M.D. Edin., F.R.C.S. Eng., M.R.C.P. Lond., has been appointed Physician to In-Patients at the Samaritan Free Hospital for Women, London.

MUDD, FRANK BURNAND, has been appointed Honorary Anæsthetist to the Throat Hospital, Golden-square.

OWEN, EDMUND, F.R.C.S., has been appointed Consulting Surgeon and Surgeon-in-Chief to the French Hospital and Dispensary, vice the late Sir William Mac Cormac.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BOROUGH OF BOOTLE HOSPITAL FOR INFECTIOUS DISEASES.—Resident Medical Officer, unmarried. Salary £120 per annum, with board, washing, and apartments.

BOROUGH OF DONCASTER, BALBY-WITH-HEXTHORPE, AND WHEATLEY.—Medical Officer of Health and Doctor to Infectious and Small-pox Hospitals. Salary as Medical Officer £300 per annum, as Doctor to Hospitals £50 per annum.

BRADFORD ROYAL INFIRMARY.—Dispensary Surgeon, single. Salary £100 per annum, with board and residence.

BRISTOL GENERAL HOSPITAL.—Surgeon. Also Assistant Surgeon.

CHARING-CROSS HOSPITAL.—Third Anæsthetist.

CHELTENHAM GENERAL HOSPITAL.—House Surgeon, unmarried Salary £80 per annum, with board and apartments.

CHILDREN'S HOSPITAL, Sheffield (Out-patient Department).—Lady House Surgeon. Salary £70 a year, with board, lodging, and washing.

CORPORATION OF LONDON.—Female Sanitary Inspector. Salary £125 per annum, rising to £150.

DERBYSHIRE ROYAL INFIRMARY, Derby.—Assistant House Surgeon for six months. Salary of £30 for the six months, with board, residence, and washing.

DERWENT VALLEY WATER BOARD WORKMEN'S VILLAGE, Birchinlee, North Derbyshire.—Medical Officer.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—House Surgeon and Assistant House Surgeon. Salary, House Surgeon £100 per annum, Assistant £50 per annum, with apartments, board, and lodging.

DURHAM COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £140, rising to £160, with board, laundry, and attendance.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, S.E.—Junior Resident Medical Officer and Registrar. Salary £50, with board and washing.

GENERAL HOSPITAL, Birmingham.—House Physician. Salary £50 per annum, with residence, board, and washing. Also House Surgeon. Salary £50 per annum, with board, lodging, and washing.

GLASGOW ROYAL INFIRMARY.—Superintendent. Salary £500 per annum, with board, residence, &c.

HAMPSTEAD HOSPITAL.—Resident Medical Officer for six months. Salary at rate of £120 per annum, with rooms, coals, and gas.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, and board and residence.

JOINT COUNTIES LUNATIC ASYLUM, Talgarth, Breconshire.—Medical Superintendent. Salary £450 per annum, with house, coal, light, and washing.

LONDON HOSPITAL, Whitechapel, E.—Assistant Director of the Pathological Institute. Salary £200 per annum.

LONDON LOCK HOSPITAL.—House Surgeon to Female Hospital. Salary £80 per annum, with board, lodging, and washing.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £70 per annum, with board and residence.

MOUNT VERNON HOSPITAL FOR CONSUMPTION, Hampstead.—Senior Resident Medical Officer. Honorarium £100.

NOBLE'S ISLE OF MAN GENERAL HOSPITAL AND DISPENSARY, Douglas, Isle of Man.—Resident House Surgeon. Salary £82 per year, with board and washing free.

NORFOLK COUNTY ASYLUM, Thorpe, Norwich. — Junior Assistant Medical Officer, single. Salary £120 per annum, with board, lodging, and washing.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, N.E.—House Surgeon for six months. Salary at rate of £30 per annum, with board, residence, and laundry.

ROYAL ALBERT HOSPITAL, Devonport.—Assistant House Surgeon for six months. Salary £50 per annum, with board, lodging, and washing.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, AND ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Research Laboratories.—Assistant Bacteriologist in the Research Laboratories. Salary £300 per annum.

ROYAL HOSPITAL FOR INCURABLES, Putney Heath.—Medical Officer. Salary £250 per annum.

ROYAL INFIRMARY OF EDINBURGH.—Pathologist. Salary £400 per annum.

ROYAL SURREY COUNTY HOSPITAL, Guildford.—Assistant House Surgeon. Salary £75, with board, residence, and laundry.

ST. BARTHOLOMEW'S HOSPITAL.—Assistant Surgeon.

SEACLIFF LUNATIC ASYLUM, Dunedin, New Zealand.—Assistant Medical Officer, unmarried. Salary £250, with board, lodging, and washing.

SEAMEN'S HOSPITAL SOCIETY (Dreadnought), S.E.—House Surgeon for Society's Branch Hospital, Royal Victoria and Albert Docks, E. Salary £50 per annum, with board and residence.

SCALEBOR PARK, Burley-in-Wharfedale.—Medical Superintendent. Salary £500 a year, with house, board, and attendance.

TOTTENHAM HOSPITAL.—House Surgeon. Salary £50 per annum, with board, residence, laundry, &c.

UNIVERSITY OF ST. ANDREWS.—Examiner in Physiology and Pathology.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Junior House Surgeon. Salary £50 per annum, with board, lodging, washing, and attendance.

WEST HERTS INFIRMARY, Hemel Hempstead.—House Surgeon, unmarried. Salary £100 per annum, with rooms, board, fire, lights, washing, and attendance.

WHITECHAPEL UNION INFIRMARY, Vallance-road, N.E.—First Assistant Resident Medical Officer. Salary £130 per annum, rising to £150, with rations, apartments, coal, gas, and washing.

YORK COUNTY HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, residence, and washing.

Births, Marriages, and Deaths.

BIRTHS.

CARRUTHERS.—On Jan. 6th, at Halton, Cheshire, the wife of W. Hodgson Carruthers, M.D., of a daughter.

GIBSON.—On Jan. 3rd, at Queen's-crescent, Glasgow, W., the wife of E. Arthur Gibson, M.D. Glasg., of a son.

HARDING.—On Dec. 31st, 1901, at Whittlesea, Cambs, the wife of C. Headley Harding, M.R.C.S., L.R.C.P. Lond., of a daughter.

MARRIAGE.

VAN SOMEREN—FLETCHER.—On Jan. 2nd, at the parish church, Northwood, by the Rev. E. B. Backhouse, Ernest Herbert van Someren, M.R.C.S., L.R.C.P. Lond., of Venice, Italy, to Grace Ivy Ethel, daughter of Mr. and Mrs. Horace Fletcher, of Palazzo Salbante, Venice, Italy.

DEATH.

CARRINGTON.—On Dec. 30th, 1901, suddenly, at Battersea-rise, S.W., William Henry Carrington, L.S.A., L.R.C.P. Irel.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE CLAMOND GAS RADIATOR.

WE have been favoured with a copy of the following letter which we believe has already appeared in the *Journal of Gas Lighting*. The writer addresses us "on behalf of the Richmond Gas Stove and Meter Co."

CLAMOND FIRES—"LANCET TESTS."

To the Editors of THE LANCET.

DEAR SIRS,—THE LANCET of Nov. 30th contained a report of what purported to be an exhaustive series of analytical tests of the above named fires or radiators.

Some of the data, and the conclusions drawn therefrom, were so "peculiar" that while they may pass unchallenged in THE LANCET (it not being a technical journal) I quite expected to see them questioned in the practical press.

Had the report been an ordinary "sympathetic" description of some novelty a little "poetic liberty" might well pass unchallenged, but published as these tables and detailed explanations are, with the seal of "THE LANCET Laboratory" upon them, they will, unless questioned, be taken by many as reliable scientific results.

It is due, therefore, to the public, and in justice to the whole of the gas stove trade, that some of the discrepancies contained in the report in question be exposed and corrected.

Gas experts who read the report will have already noted some of these errors; no doubt their confidence in the rest would thereby be shaken.

For instance, Table I. informs us that, with 3" pressure of gas, a certain fixed aperture in a burner passes 22 ft. of gas per hour. Table II. informs us that the same aperture with 2" pressure passes 20 ft. per hour—i.e., for 1" more pressure *only 2 ft. in 20 ft.* more gas?

Tables III. and IV., however, show results much more "peculiar than that, for in them we are told that the same burner which passes 20 ft. per hour at 2" pressure, *passes only 18 ft. when pressure is increased to 2½".*

Surely something has gone wrong with THE LANCET meter.

The next "peculiar" result to be noted is the discovery that the hot air chamber which forms the upper part of one of the stoves, and which is heated by the products of combustion before they enter the flue, is of no use, and that the stove without such additional radiating and convecting power is quite as efficient.

If this is true, here is a new law of heat from THE LANCET Laboratory which may seriously upset the calculations of heating engineers, as from it we may prove that a hot radiator gives off no heat, either radiant or convected.

Another very important omission from THE LANCET tests, especially if the results are intended to be of service outside London, is that lower pressures—viz., 1½ and 1' (the latter of which is prevalent as day pressure in the country)—are entirely ignored.

It is well known that it is at low pressures that most of the present difficulties arise, and if in this direction lies the weakness of the fires in question that fact should be made known in the places where high pressure is not available.

Passing from necessary criticisms of unreliable experiments to practical facts every right-minded progressive producer of articles of such public utility will hail with pleasure each step made towards greater perfection in appliances as they tend to stimulate their more extensive use and inspire the inventive faculties of the craft to "reach another niche the higher."

Yours faithfully,

E. W. T. RICHMOND

(On behalf of the Richmond Gas Stove and Meter Co.).

Dec. 19th, 1901.

*** Mr. Richmond's discursive observations—we cannot regard them as criticisms—call for little attention, coming as they do from an interested person addressing us "on behalf of the Richmond Gas-stove and Meter Co." We can, however, give him a better reason than that which he supplies why "the data and the conclusions drawn therefrom" have passed "unchallenged"; why, in fact, no one save himself has thought fit to describe them as "peculiar." That reason is taps. We observe that Mr. Richmond, while not suggesting that there is any mistake in our observations on health points—such as the effect of gas-stoves upon the air, the estimation of carbonic acid, the minute detection of carbonic oxide, the composition of the gases at various points—insinuates that here also we must be wrong because of our errors which he says have been noted by gas experts. No errors have been noted by any gas experts, unless Mr. Richmond is such an one. The question of the relation of pressure to consumption in the Clamond Gas Radiators seems to have puzzled Mr. Richmond to such an extent that he has lost his manners. The solution of the mystery of course is taps, all Mr. Richmond's insistence upon the "same aperture" and a "fixed aperture" being beside the point. Mr. Richmond's meter, we may assume, will record the

same fact as ours—namely, that when taps are partly turned off a smaller consumption will be registered, the pressure remaining the same or it may even be increasing. These taps were used in the experiments in order to arrive at the maximum and minimum efficiency of the stove, as is plainly indicated in the report. The pressures recorded refer merely to the supply, which is variable. The importance of an efficient pressure was also pointed out, whereas Mr. Richmond says it was "entirely ignored." Mr. Richmond need not trouble to search for new physical laws; the application of well-established principles to improvements in gas-stoves has by no means been exhausted, as the little progress made during the last 10 years by gas-stove makers abundantly shows.—ED. L.

LOCUM-TENENTS AND ASSISTANTS' FEES.

To the Editors of THE LANCET.

SIRS,—It seems to me that the time has come when some change should be made in fees paid to men holding temporary charge. My object in drawing attention to this matter is to ask if men who, like myself, devote their whole time to locum and other temporary work will let me know what are their views on the subject. Ever since the days of Dr. Baxter Langley there has been no recognised alteration made in these fees. I think I am right in saying that some of the leading medical agents are of opinion that something definite should be done to increase these fees. I am informed that dental surgeons have some difficulty in obtaining locums even at £5 5s. per week. Why should medical men take less? If I find I obtain suitable replies to this communication I will decide what future action should be taken to give expression to the general consensus of opinion of locum-tenents and temporary assistants.—I am, Sirs, yours faithfully,

T. HOWARD BROCKLEHURST, M.R.C.S. Eng., L.S.A.

Weymouth, Dorset, Dec. 30th, 1901.

A CORRECTION.

To the Editors of THE LANCET.

SIRS,—By an error my new address is given in Churchill's "Medical Directory" as 70A, Grosvenor-square, instead of Grosvenor-street. As the wrong address may obviously give rise to the greatest inconvenience may I ask the hospitality of your columns to draw attention to the oversight. I am, Sirs, yours faithfully,

Jan. 7th, 1902. D. WALSH.

FRIENDLY SOCIETIES AND THEIR MEDICAL AID INSTITUTIONS.

To the Editors of THE LANCET.

SIRS,—Mr. J. B. Pike's letter in THE LANCET of Dec. 7th, 1901, p. 1643, has evidently touched "C. W." on the raw, even to the extent of compelling him to seek medical advice, which, however, judging from the tone of his reply to Mr. Pike in THE LANCET of Dec. 14th, 1901, p. 1709, has not been so much judicious as extensive. As your excellent motto, "Audi alteram partem," is such a good working text I trust that "C. W." will forgive me when I inform him that every medical *gentleman* I have come across who has read his first letter agrees absolutely with Mr. Pike's criticism of its tone. Our profession is unfortunately quite alive to the fact that these institutions are legalised robbers and are, moreover, assisted by the State in their efforts to pauperise the public as well as the profession. It would, however, puzzle "C. W." to point out an Act of Parliament which compels medical men to accept the posts of surgeons to such institutions, whilst, on the other hand, he would have no trouble in finding many proofs of the growing feeling in the profession that the acceptance of such posts is detrimental to the honour of the medical profession as well as to the best interests of the public themselves. Even the medical worm will claim its proverbial right to turn, long suffering though it has been. "Audi alteram partem" once more. Let me tell "C. W." how I feel about the matter and assure him at the same time those feelings are shared by a daily increasing majority of the profession. Taking club practice in its pecuniary relation to the profession, frankly it does not pay, and nowadays, with persons in a decent position not only not ashamed to, but eagerly demanding medical care at charity rates for men, women, and children, it is absolutely ruinous to general practice. Should, however, a medical man have the temerity to protest against his daily bread being snatched from him, what happens? "C. W." tells us (it is very simple), join together and starve him till he learns his place; that is what it amounts to, and what is practically attempted wherever these institutes are established.

The friendly societies tried it on in Great Yarmouth, but "C. W." will be glad to learn that they have not succeeded in injuring anybody but themselves. The local profession have been, on the other hand, benefited by the formation of the institute, and it is the daily experience of the Yarmouth medical men to have the institute members come to them as private patients in spite of the "better attention" and "better drugs" offered by the institute. This is simply due to the fact that the Yarmouth medical men combined together and would not be crushed; let the Rotherham medical men do the same and they will find that they will be the gainers and not the losers by the formation of the institute. In conclusion, one word more to "C. W." Once a club joins an institute amalgamation it loses all control over its medical advisers (other than that exercised by its representative on the institute committee), and were it not for this fact I am firmly of opinion that the majority of the clubs would gladly leave the Yarmouth Institute and return to their old medical advisers. The argument advanced by "C. W." that these institutions are self-supporting because their members through the clubs subscribe to the hospitals is fallacious. That this is so can be easily proved by looking at any hospital report, when it will be found that however largely the working classes subscribe (and they ought to subscribe largely) they receive from the charity a great deal more than they subscribe, to say nothing of the gratuitous medical and surgical help which is freely given by the very profession "C. W." and his kind are so ready to trample on. Until the rulers of our profession can see their way to condemn medical men for underselling their brethren and sacrificing their independence to the whims of "C. W.'s" committees there is only one course for the profession to adopt, and that is to leave the friendly societies and their medical aid institutions severely alone. I am, Sirs, yours faithfully,

Great Yarmouth, Dec. 15th, 1901. ALBAN HY. MOXON.

THE CASE OF THE LATE MR. R. B. ANDERSON.

To the Editors of THE LANCET.

SIRS,—I shall be obliged if you will publish the inclosed list of those who have been kind enough to respond to my appeal on behalf of the fund for the benefit of the wife and family of the late R. B. Anderson, F.R.C.S. There are still thousands of medical men who know of the circumstances of this case and who ought to feel it a privilege to send a few shillings to the fund. The attitude of the men who are supposed to take an interest in medical politics is very disappointing. How anyone of them can refrain from adding his mite in memory of the man who sacrificed everything in defending the honour and interests of the profession is a mystery to me. Let me implore them before this fund is closed to do a little for the credit of the profession in this matter. I am, Sirs, yours faithfully,

Jan. 7th, 1902. ALFRED COX.

	£	s.	d.
Lord Lister	20	0	0
Mr. W. Llewellyn (Stamford Hill)	1	0	0
Dr. J. L. Speirs (Gateshead)	1	1	0
Mr. W. F. Brook (Fareham)	1	1	0
Mr. Arthur C. Roper (Exeter)	1	1	0
Mr. A. R. F. Evershed (Pinner's Hall)	0	10	
Dr. John Brown (Bacup)	0	10	6
Mr. J. W. Papillon (Brent Knoll, Somerset) ...	0	10	0
Dr. L. A. McNabb (South Shields)	0	10	6
Dr. S. Moore (Holbeck, Leeds)	0	10	6
Mr. C. T. B. Maisey (Manchester)	1	1	0
L. A. B.	1	1	0
Per the *General Practitioner*—			
Mr. George Brown (Islington)	1	1	0
Mrs. George Brown ...	0	10	6
Mr. G. H. Broadbent (Manchester)	2	2	0
Dr. R. Wilkinson (Upper Norwood) ...	0	10	0
Dr. Basil W. Walker (Bayswater)	0	7	6
Mr. A. Cosgrave (Bolton-le-Moors) ...	0	5	
L. R. C. P. (Sheffield)	0	2	

To the Editors of THE LANCET.

SIRS,—Owing to several requests and conditional promises of subscriptions the committee has resolved to keep this fund open till the last day of February next, instead of closing it to-day (Jan. 8th) as previously announced.

WALTER MONNINGTON, Honorary Secretary.

7, Fig-tree-court, Temple, E.C., Jan. 8th, 1902.

A DISCLAIMER.

WE have been requested by Mr. James Startin to state that he is in no way connected with the letters that have appeared in the lay press under the *nom de plume* of "a surgeon to the Roentgen Ray department of the London Skin Hospital."

A CASE FOR DIAGNOSIS.

To the Editors of THE LANCET.

SIRS,—I should be greatly obliged by suggestions as to the causation and treatment of the following (to me) mysterious case. A. B. went to bed about 1 A.M. in apparently better health and spirits than he had enjoyed for a month, in fact, feeling perfectly well. He had during the previous three or four weeks suffered twinges of what appeared to be muscular rheumatism. He was awakened from a sound sleep at about 3.30 to 4 A.M. by acute agony in the region of the throat accompanied by what might be "referred" or "echo" pains through the whole of the head, but particularly in the jaws and neck. He got up, tried to examine his throat with a glass, but could see nothing, the agony rapidly becoming more severe. In a few minutes the left eye became acutely inflamed, with sharp pain, and presently began to swell rapidly till the whole of the eyelids and surrounding tissues were bulging out to almost the size of an egg. He attempted to relieve himself by bathing his head and eye and gargling his throat with hot water without any result. The symptoms became so bad that suffocation threatened, and the danger appeared so real and imminent that before calling for help he made pencil memoranda of various uncompleted business matters in the belief that he was dying. The pains then seemed to spread more or less throughout the body, but nothing like so acute as in the head. When help came hot fomentations were again administered, as by this time the patient was incapable of helping himself, and a large dose of hot brandy-and-water was taken; this seemed to cause relief, or at least intoxication, and pending the coming of a medical man another large dose of hot brandy-and-water was taken. This resulted in a troubled and heavy sleep, during which the patient

called out as if in pain and seemed at times to be strangling. Towards 11 A.M. the symptoms seemed to subside, although the eye still remained swollen, apparently almost bursting. Renewed hot fomentations seemed to relieve this, and in the course of the afternoon violent sneezing and running from the nose were continued for three or four hours, and after this the symptoms seemed to improve. Later in the evening sharp headache set in, probably the result of the alcohol that had been taken, as it was promptly relieved by 15 grs. of phenacetin. A hot bath with hot local applications seemed to soothe the patient as the evening advanced, and he had a fairly good night. The next morning all the pain had practically disappeared, although the left eye was still tumid. At no time during the attack was there any exudation or running of any kind from the swollen and inflamed left eye. In the afternoon of the first day the temperature was 101·5° F. and the pulse was 83, the patient's normal pulse being about 70. The next day the patient appeared perfectly well, the left eye being quite normal in appearance. It is noteworthy that when the pain in the throat was worst and the feeling suggested suffocation and great swelling of the tissues there was not the slightest difficulty in swallowing either then or throughout the attack.

I am, Sirs, yours faithfully,

Dec. 30th, 1901. PUZZLED.

*** It is naturally difficult to diagnose a case without having seen it. We would suggest that it was a case of angio-neurotic œdema of doubtful origin.—ED. L.

GUESS-WORK.

To the Editors of THE LANCET.

SIRS,—Can you or any readers of THE LANCET kindly inform me, through the medium of your correspondence columns, the probable increase of income likely to be derived from the second and third years' working of a new practice in London amongst the middle classes in proportion to that realised the first year?

I am, Sirs, yours faithfully,

Jan. 1st, 1902. E. W. N.

*** Increase of practice depends upon so many factors, to say nothing of the practitioner's individuality, that "E. W. N." must not expect to get any definite information. We publish his request to his fellow-practitioners, however.—ED. L.

CHARITY AND DENTISTRY.

THE following advertisement appeared in the *Church Times* of Dec. 20th:—

A LADY will have much pleasure (out of gratitude) in recommending her DENTIST. She can speak well of his abilities and kind treatment, having previously been under the care of three dentists, all of whom made a failure of her teeth. Card sent with pleasure.—Address, T., 3, Radnor-place, Hyde Park, London, W.

We thought that this was a chance not to be missed, so we wrote to "T." She kindly enclosed us the card of a gentleman who, according to the *Dentists' Register*, has one qualification only, but that we may say a valuable one—namely, experience. He was in practice before 1878. Gratitude is a great quality, but why should "T" show her gratitude by advertising her dentist at 4*s.* 6*d.* per insertion? Why not send him a cheese or a turkey, or emulate the good deeds of the Pilgrims who, according to Mr. W. S. Gilbert, waited on Pasha Bailey Ben as thus:—

"They brought him onions strung on ropes,
And cold boiled beef, and telescopes,
And balls of string, and shrimps and guns,
And chops, and tacks, and hats, and buns.

They brought him white kid gloves, and pails,
And candlesticks, and potted quails,
And capstan bars, and scales and weights,
And ornaments for empty grates."

A gift of all or any of these would be a legitimate way of rewarding a dentist or anybody else. "T" being a non-professional person cannot be expected to know professional proprieties, but really the dentist in question has been in practice quite long enough (before 1878) to know that it is not fitting that his cards should be distributed as per advertisement by "T" or any other person.

THE CASE OF THE LATE MR. W. K. BROCK.

THE following further subscriptions to this fund are announced:—Mr. A. Tuxford, Boston, Lincs., £2 2*s.*; THE LANCET Relief Fund, £12 10*s.*

General Practitioner.—The Coroners Act of 1887 was a consolidating Act and did not abolish the essential clauses of previous Acts. If a person dies as the result of an accident the coroner is bound to hold an inquest. If a person dies within such time from the date of an accident as to render it reasonable to infer that the accident might have contributed to the death the coroner must hold an inquest. In the case mentioned only about 12 days elapsed between the accident and the death. In our opinion, as death was attributed to blocking of a large cerebral blood-vessel, it is not improbable that the shock and the sudden confinement to bed of the patient, who had previously led an active life, had some part in causing the fatal issue. We think the coroner was quite justified in holding an inquest. However strong may be the belief of a medical man that death resulted solely from natural causes it is certainly politic to communicate the facts of the accident and the death to the coroner and so to divest himself of all further legal responsibility.

Q. E. D.—B cannot take any vigorous steps to enforce a claim against A. The proposal of A to assist B in the management of the practice and to allow his (A's) name to remain on the premises amounted to a scheme between A and B to cover unqualified practice in dentistry. The General Medical Council would condemn the action of both, and no court of law would be likely to view B's claim for damages favourably. But while it was wrong of A to make an immoral bargain we certainly do not think it right of him to benefit pecuniarily by not keeping that bargain. More than this we cannot say.

G. P.—Our correspondent is at perfect liberty to analyse the preparation and to write out in testimonial form what he finds. Such a testimonial, however, must certainly not appear on the labels of the bottles unless merely the results of the examination are given without any signature, and this, of course, would render the analysis valueless.

B. B.—The second-class examination of the College of Preceptors is no longer accepted by the General Medical Council.

Coccus.—Epidemic Diarrhœa, by Dr. F. W. Andrewes, THE LANCET, Jan. 7th, 1899, p. 8; Epidemic Colitis, THE LANCET, Sept. 23rd, 1899, p. 850.

Y. M. J. H.—We shall be happy to make an examination of the preparation in question if a specimen is forwarded to us.

T. D.—We are not prepared to advocate, at any rate at the present moment, the formation of such a society.

S. W.—Our correspondent should consult his usual medical attendant.

W. N. W.—We do not know.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.) St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

WEDNESDAY (15th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.).

THURSDAY (16th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

FRIDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.).

SATURDAY (18th).—Royal Free (9 A.M. and 2 P.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.), Throat, Golden-square (9.30 A.M.)

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (13th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Paper:—Mr. Mayo Robson: Observations on the Surgical Treatment of Obstructive Jaundice, resulting from an Experience of over 200 Operations.

SOCIETY OF ARTS.—8 P.M. Dr. S. Rideal: The Purification and Sterilisation of Water. (Cantor Lecture.)

TUESDAY (14th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Adjourned Discussion on Dr. S. M. Copeman's paper on Modern Methods of Vaccination and their

Scientific Basis, opened by Dr. T. D. Acland and taken part in by Dr. Greenwood, Dr. S. Coupland, Dr. Eddowes, Dr. L. Parkes, Mr. H. A. Stonham, Dr. A. E. Cope, Dr. J. Loane, and Prof. Sims Woodhead. Dr Copeman will illustrate his remarks by lantern slides to be shown on Zeiss's Epidiascope. (This will be the first public demonstration of the Epidiascope.)

WEDNESDAY (15th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. The President will deliver his Annual Address.
ROYAL METEOROLOGICAL SOCIETY (Institution of Civil Engineers, Great George-street, S.W.).—7.45 P.M. Annual General Meeting.

THURSDAY (16th).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—8 P.M. Annual General Meeting. Election of Officers. President's Address. Annual Conversazione.
GUTHRIE SOCIETY (Board Room, Westminster Hospital).—8.30 P.M. Dr. Hall-Edwards: The X Rays in South Africa (illustrated by lantern slides).

FRIDAY (17th).—EPIDEMIOLOGICAL SOCIETY (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Meeting.
SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (Evelina Hospital).—5.30 P.M. Cases will be shown by Mr. A. H. Tubby, Mr. J. J. Clarke, Mr. Walter Edmunds, Dr. G. Carpenter, and Mr. F. C. Abbott. Papers:—Dr. L. Marshall (Nottingham): A Case of Thyroid Dislocation of the Hip in a Child.—Dr. L. A. Milligan: A Note on a Case of Chronic Granular Nephritis in a Child, aged seven years.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (13th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. Galloway: Clinique. (Skin.)
POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Baldwin: Surgical Emergencies.

TUESDAY (14th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. S. Taylor: Clinique. (Medical.)
POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Beddard: Traumatic Neurasthenia.
NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. Beevor: Muscular Atrophy.

WEDNESDAY (15th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. P. J. Freyer: Clinique. (Surgical.)
POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. McAdam Eccles: Lantern Demonstration on Hernia.

THURSDAY (16th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Clinique. (Surgical.)
POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Dunn: Conjunctival Diseases.
CHARING-CROSS HOSPITAL.—4 P.M. Mr. Waterhouse: Surgical Cases. (Post-Graduate Course.)
THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Garrod: Demonstration of Selected Cases.

FRIDAY (17th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. M. Gunn: Clinique. (Eye.)
POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Diagnosis of Disease of Spinal Cord, illustrated by Cases.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1901, which was completed with the issue of Dec. 28th, and the Title-page to the Volume, were given in THE LANCET of Jan 4th.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1901 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 9th, 1902.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Jan. 3	29·96	W.	...	56	52	43	43	44	Hazy
,, 4	29·91	W.	...	66	53	44	49	51	Cloudy
,, 5	29·99	W.	0·07	70	47	42	40	42	Cloudy
,, 6	30·41	W.	0·10	68	52	40	44	46	Cloudy
,, 7	30·62	N.W.	...	52	48	42	42	44	Hazy
,, 8	30·53	W.	...	48	46	44	42	45	Overcast
,, 9	30·20	W.	...	51	49	42	42	45	Overcast

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